

Dental Digest

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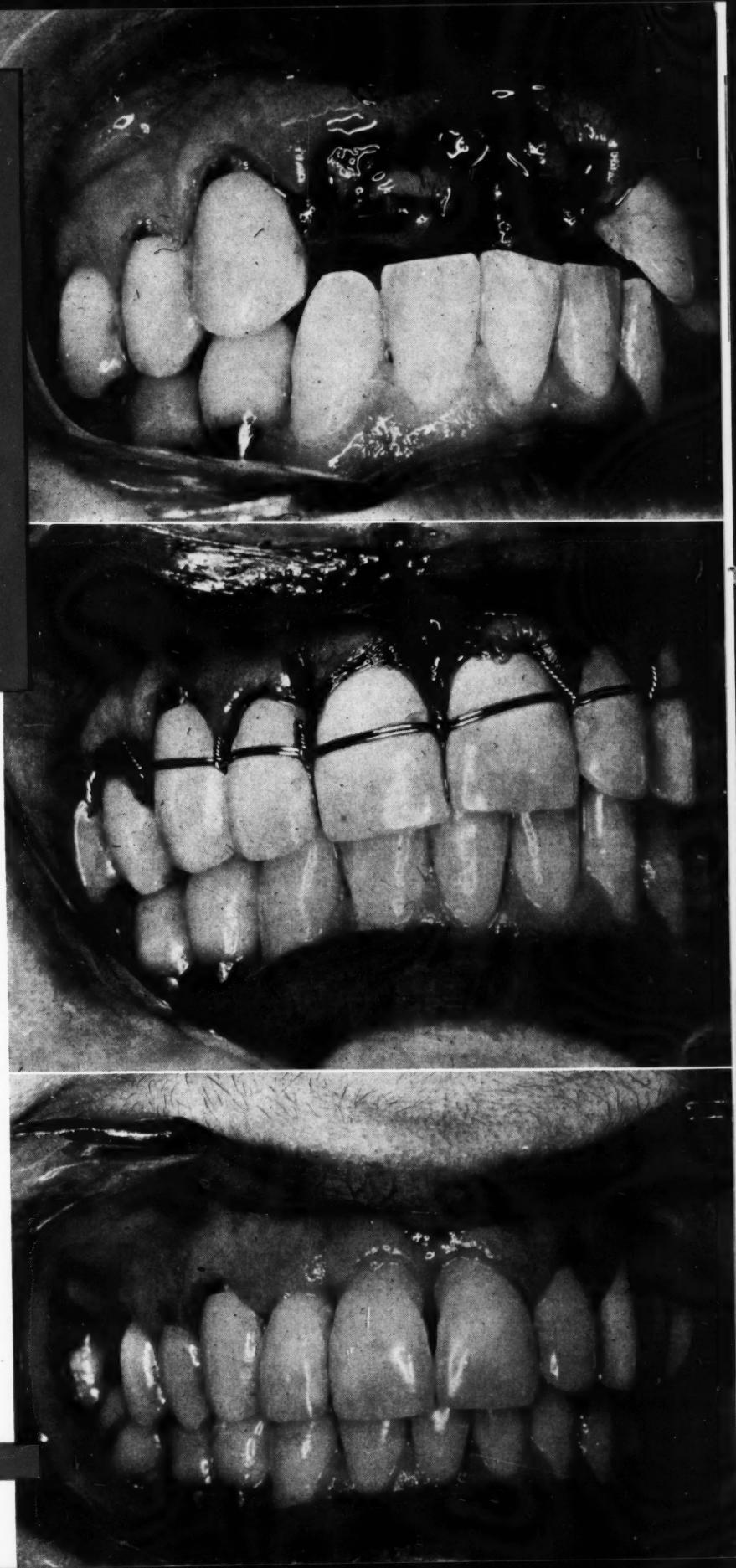
December 1961

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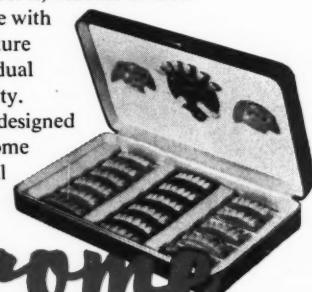


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December 1961

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About Our

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FOR ANXIETY IN ORAL SURGERY, appears in the current issue.

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Replantation of Evulsed Teeth:

A CASE REPORT

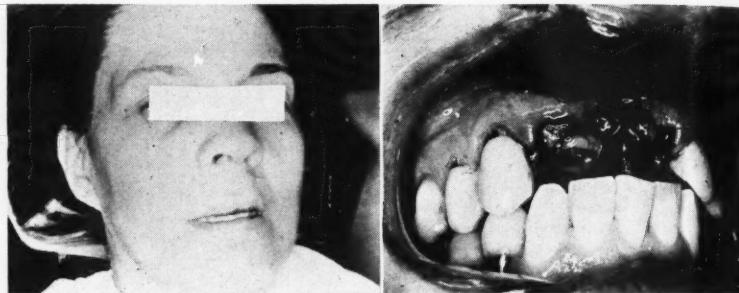
JAY W. FRIEDMAN, D.D.S., Seattle

DIGEST

The patient in this case was thrown forward into the dash panel in an automobile collision. The right maxillary lateral and both central incisors were evulsed. During dental examination in the hospital the possibility was suggested that the missing teeth might not have been fractured. Her husband, who was driving and was uninjured, returned to the scene of the accident. One tooth was recovered from the gutter and the other two teeth were found on the floor of the car. This article reports the procedure employed for successful replantation of the three teeth.

Preliminary Measures

The patient, a woman of 42, was involved in an early morning automobile accident during which she lost three teeth. The teeth were recovered at the site of the accident several hours later. The roots of the teeth were covered with grime.



1. Front view of bruised, swollen lips and nose.

2. Lacerated mucosa before debridement.

Preparation of Teeth — 1. They were placed in zephiran chloride 1:1000 for one-half hour.

2. The roots were curetted, all debris and remnants of periodontal membrane were removed.

3. The root canals were cleaned, enlarged, and filled with gutta-percha and chloropercha.

4. The apexes were rounded off with discs. The canals were left under-filled less than $\frac{1}{2}$ millimeter.

5. Old silicate restorations were replaced (Fig. 3).

General Condition of Patient — The patient presented at the clinic eight hours after the accident (Fig. 1). Examination disclosed the following conditions: (1) The upper lip was split, (2) the labial alveolar plate was splintered, and (3) the mucosa was torn through the midline to the base of the maxilla (Fig. 2).

Replantation Procedure

1. The area was thoroughly debrided.

2. Under local anesthetic the patient



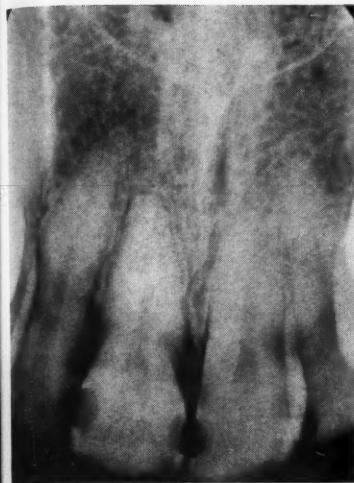
3. Teeth cleaned and filled before replantation procedure.



4. Teeth replanted and ligatured, tissues sutured.



5. Three and a half months after replantation.



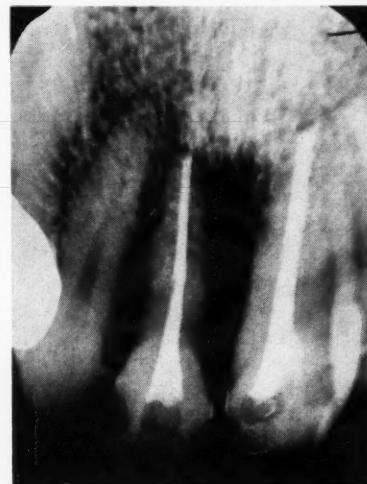
6. X-ray view one and a half years before the accident.



7. Pre-replantation view.



8. Post-replantation view.



9. X-ray two years later. No mobility present, suggesting ankylosis of replanted teeth.

from the dashboard which was embedded in the bone (except that which appeared to be residual staining into the surface of the remaining intact maxillary bone) was removed.

3. The teeth slipped into the sockets easily and were retained by lingual and interproximal bone, with only slight labial bone at the apex.

4. The teeth were firmly ligated with stainless steel wire from the left lateral and cuspid through the right cuspid and bicuspid (Fig. 4).

5. The tissue was sutured interproximally to close the entire wound. The result was that there was uninterrupted gingival tissue covering the labial surfaces of the roots. The pa-

tient who was sensitive to penicillin was maintained on chloromycetin succinate for 72 hours, 250 milligrams daily and was hospitalized for observation of shock.

Postoperative Progress

Two weeks later a soft acrylic mouthguard was constructed to relieve stresses of night bruxism. The patient complained of some pain at the base of the nose but the teeth remained relatively symptomless. She returned weekly for examination of wire ligature which was kept tight at all times, completely immobilizing the anterior teeth.

Ligature Removed — Three and a half months later one of the labial wires broke and the entire ligature was removed (Fig. 5). The maxillary right lateral and both central incisors had no mobility, indicating that the hoped-for ankylosis was present.

Gingiva Reattached — The maxillary left lateral incisor, which had remained intact in the accident, was slightly mobile although still vital. The gingiva had reattached and there were no periodontal pockets.

Observable Defects — The only observable sequelae to the accident were the 2-millimeter recession of the labial gingiva and the loss of the central interdental papilla which causes the patient to complain of "sucking air."

Comment

Loss of the front teeth was more shocking to the patient than any other phase of the accident. Their immediate replacement was of profound psychological importance. Even if the procedure failed to be permanent, it would have served as a satisfactory temporary restoration. The initial results being successful there is a good possibility that she will retain these teeth in excellent condition for many years. Two years after the replantation they are firmly attached and functioning satisfactorily.

118 Broadway East

A NEW PHYSIOLOGIC METHOD

for Repositioning the Mandible—Part Three

A. G. KRAMER, D.D.S.*, and SOPHIE KELNER, D.D.S.**[†], New York

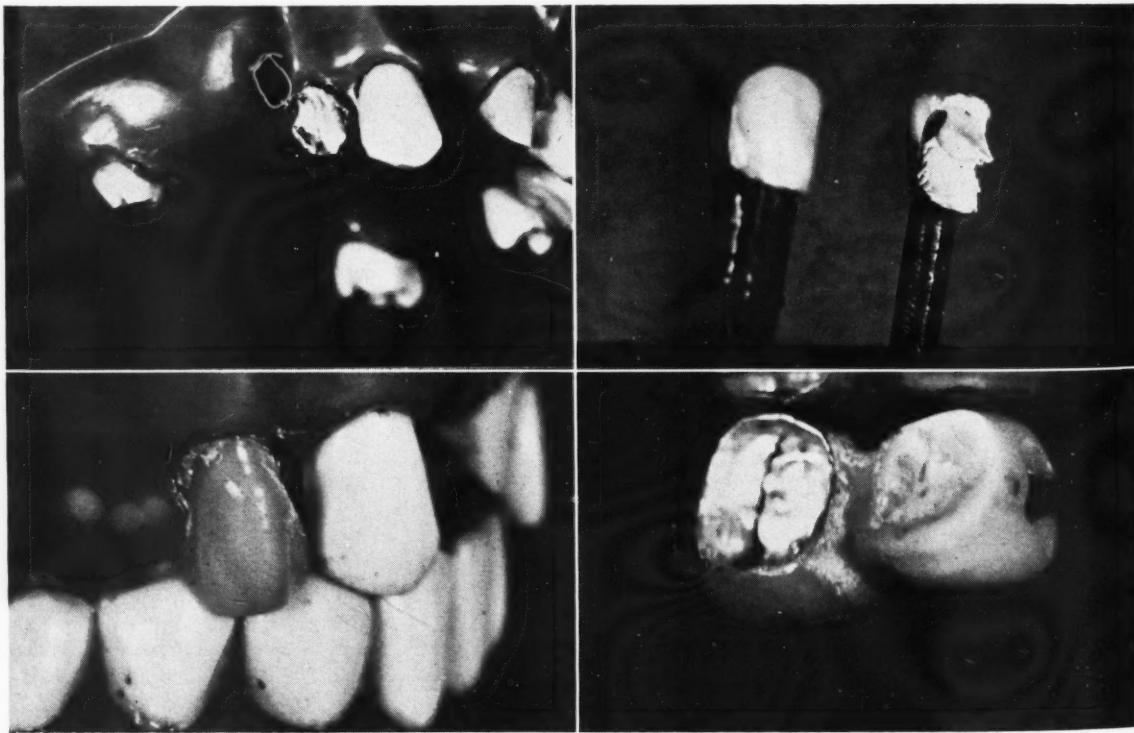
DIGEST

In this installment, which is the last of a series of three, the author presents the step-by-step technique for the construction of a posterior aluminum-acrylic bridge and for an upper anterior aluminum-acrylic bridge. These bridges are worn by the patient for about two months in order to establish definitely the new correct reflex pattern. After this, construction is completed, segment by segment, of the final and permanent restoration.

Construction of Posterior Aluminum-Acrylic Bridges

The following steps are taken to complete this procedure:

1. An aluminum shell is accurately fitted to the prepared tooth using foot pluggers and pliers to obtain adaptation to the tooth (Fig. 18).
2. The aluminum shell is removed, rinsed off in hot water, and dried thoroughly.
3. Kerr's luting wax is inserted in the hollow of the crown. Excess luting wax, as in the case of the anteriors, is allowed to protrude about two inches so that it can be held easily in the left hand of the operator (Fig. 19). Mark the protruding luting wax with a cross indicating the buccal aspect of the crown.
4. A freshly prepared mix of self-curing acrylic is applied in a thin mix with a camel's hair brush to the circumference and occlusal surface leaving the gingival $\frac{1}{16}$ of an inch free of acrylic for the present.
5. The acrylic is hardened with hot air and hot water and the crown is replaced on the tooth (Fig. 20). If the upper posteriors are in good relation



18 (top left).
Adapted aluminum thimble.

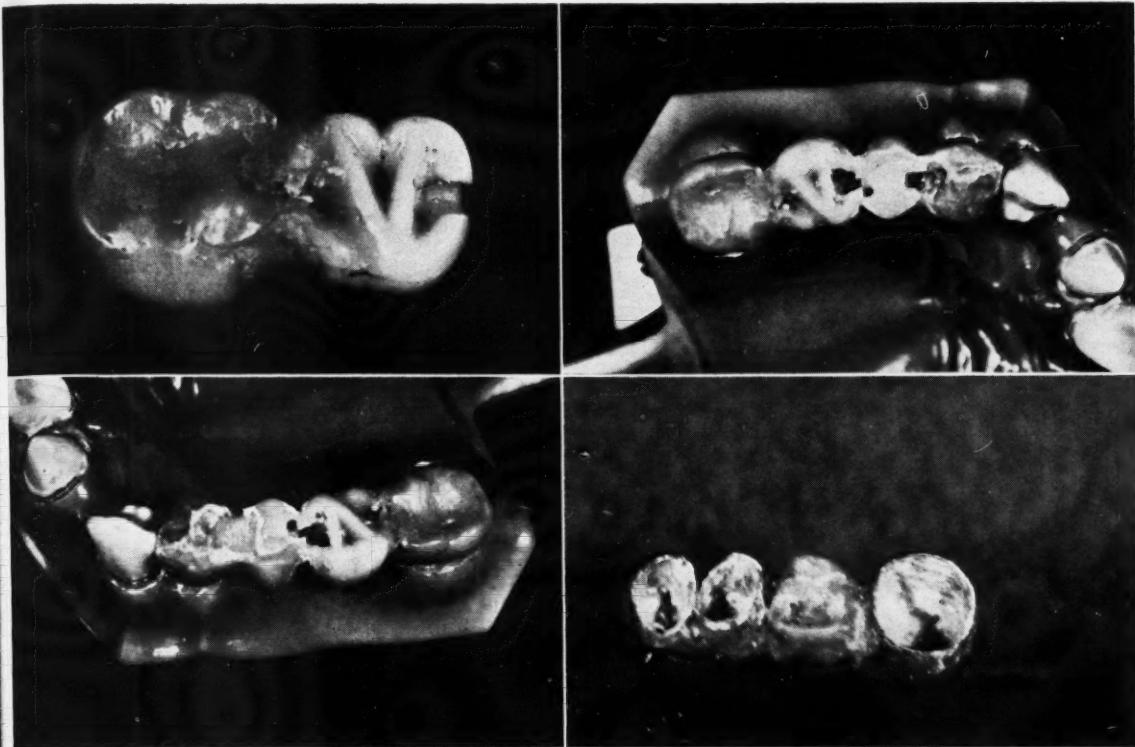
20 (bottom left).
Replacement of finished crown on tooth.

19 (top right).
Kerr's luting wax in hollow of crown. Lingual view showing stages of "paint-on" completion.

21 (bottom right).
Missing posterior attached to abutment crown. Undercut in readiness for attachment to adjoining replacement.

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21A (top left).
Undercut shown from occlusal.

21C (bottom left).
Undercut to right filled in. Left undercut still unattached.

21B (top right).
Occlusal view showing undercuts.

21D (bottom right).
Linguogingival view of bridge.

ship, or in the case of an upper bridge the lowers are in good relationship, a new quantity of acrylic is mixed to a doughy consistency and applied to the occlusal surface of the crown with a thinner mix.

6. The plane of the occlusal surface is determined by closure against the upper teeth or lower teeth, depending for which jaw the bridge is being constructed.

7. Hot air is applied, the crown is removed, and held under hot water.

8. The gingival $\frac{1}{16}$, left free of acrylic, is now painted on, hardened, and the whole crown is polished in the manner previously described.

9. If the uppers are in need of positional correction the incisal plane and the curve of Spee are used as guides, always completing the lowers first if possible.

10. The upper crowns are constructed according to the plane of the

lower and in the same manner as the lowers.

11. Where there are edentulous spaces the abutment crowns are completed first. Undercuts are made in the occlusoproximal surfaces of the crowns facing the edentulous space and a zero mold Justi tooth is undercut mesially, distally, and occlusally and attached with soft cure acrylic to the abutment crowns (Figs. 21, 21A, 21B, 21C, and 21D).

Construction of Upper Anterior Aluminum-Acrylic Bridge

This technique can be completed in two different ways, by the direct or by the direct-indirect method.

Direct Method, First Procedure—This procedure is accomplished in two phases:

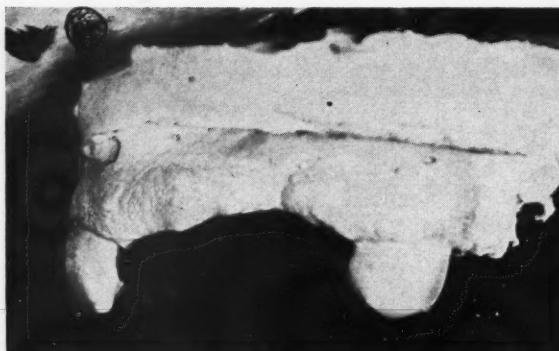
(1) Where there are edentulous spaces the anchoring aluminum abut-

ment crowns are made first. Undercuts are made with an inverted cone bur on the mesio, disto, and linguoproximal surfaces of the finished crowns facing the edentulous area.

(2) The crowns are dried in the mouth and a soft mix of self-curing acrylic is applied to the undercut areas of the abutment crowns and the acrylic prosthetic substitutes. This measure holds them in position and at the same time gives them proper axial inclination while the patient's lower teeth are closed in centric.

(3) A blast of warm air is applied to give a quick set to the self-curing acrylic. When hardened it is removed and dipped in hot water to complete setting. It is then replaced in the mouth; additional prosthetic teeth, if needed, are added and the same procedure is followed until the last abutment tooth is reached.

(4) The bite-plane described ear-



22 (top left).

Model presentation of abutment aluminum crowns and edentulous areas.

23A (bottom left).

Labial view of attached teeth.

23 (top right).

Lingual view of ground-in teeth with undercuts for attachment.

23B (bottom right).

Another labial view of attached teeth.

lier is added. The bridge is removed, polished, and temporarily cemented.

Direct Method, Second Procedure
—This method is used to construct a bridge to be used as an immediate substitute after extraction of teeth.

(1) The abutment crowns are completed and cemented temporarily in the mouth.

(2) Surgery between abutment teeth is completed.

(3) The abutment teeth are removed, washed, dried, and serrated mesially and lingually.

(4) Replacements are ground to fit the newly extracted areas, undercuts are made in the artificial substitutes with an inverted cone bur in the linguoproximal surfaces leaving the labioproximal surface intact.

(5) The serrated abutment teeth are dried and freshly mixed soft self-curing acrylic is applied to the under-

cuts on the abutments as well as on the immediate substitute teeth. They are immediately placed in position. Warm air is applied to aid setting.

(6) With each additional attachment the following acrylic replacement is similarly attached until the final abutment is reached. After adding the bite-plane as described in the first procedure, the bridge is removed, polished, and temporarily cemented. After complete surgical shrinkage, the bridge is removed, fresh self-curing acrylic is added to the ridge lap of the replacement teeth, the bridge is replaced in the mouth, the acrylic allowed to set. The bridge is then removed for final polish and is recemented with temporary cement.

Direct-Indirect Method

1. After the abutment aluminum-acrylic crowns have been made and

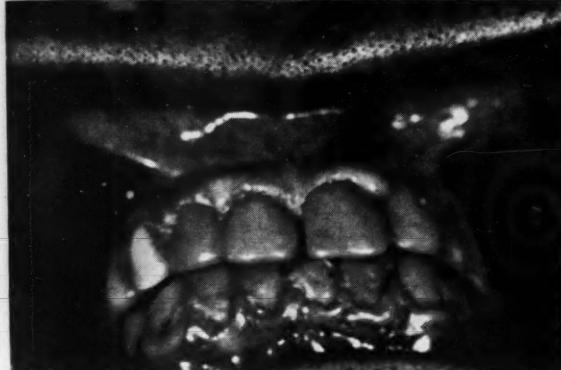
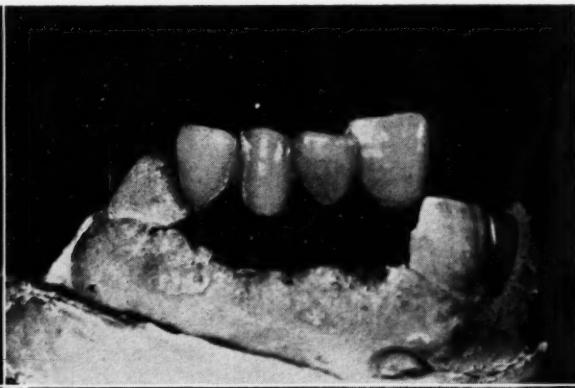
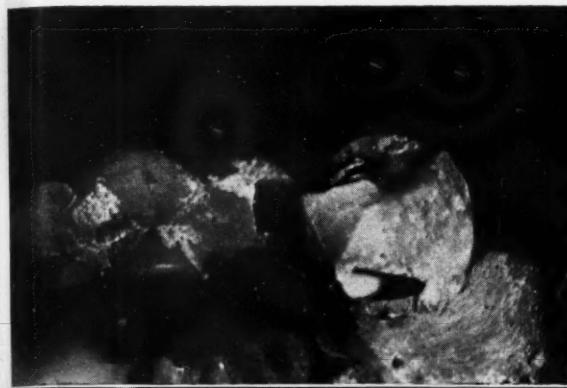
cemented temporarily in place, impressions in alginate are taken and models poured (Fig. 22).

2. The teeth to be replaced are cut off the model, and the artificial substitute prepared and ground into place on the model. They are joined to each other lingually in the undercut areas made previously (Figs. 23, 23A, and 23B).

3. The replacement is adjusted in the mouth and attached to the abutment crowns with self-curing acrylic (Figs. 24 and 24A).

Procedure Repeated — The final procedures are as described previously.

Final Construction and Restoration
—The patient is permitted to wear the anterior and posterior aluminum bridges for about two months so that the new reflex pattern becomes more definitely ingrained and predominant.

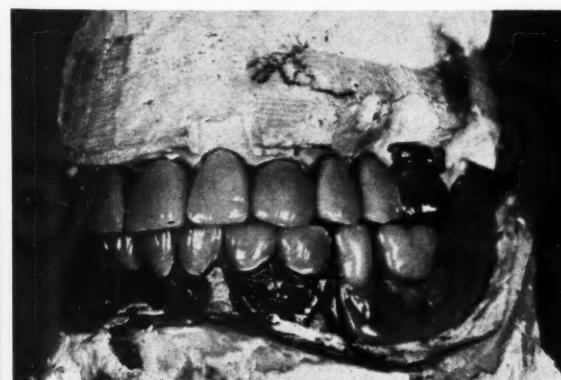


24 (top left).
Lingual undercut for attachment to abutment crown in mouth.

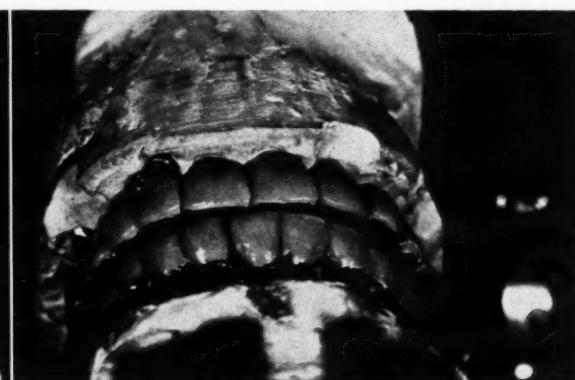
25 (bottom left).
Aluminum plastic crowns in centric closure with the mandible repositioned.

24A (top right).
Completed segment ready for transfer to mouth for final attachment.

26 (bottom right).
Anterior bite plane (segmented) and posterior temporary construction.



27.
Case completed showing precision lingual bar as part of construction.



28.
Lower anterior incisors occluding with cast cingulae of uppers.

After this length of time while one segment of the temporary bridgework is kept intact construction is begun posteriorly on the lower. Construction

of the upper opposing elements is then completed. When that is finished, the opposite posterior segments are undertaken, leaving the anteriors for final

construction and restoration (Figs. 25, 26, 27, and 28).

57 West 57th Street

Filling Root Canals in Deciduous Teeth

BY AN INJECTION TECHNIQUE

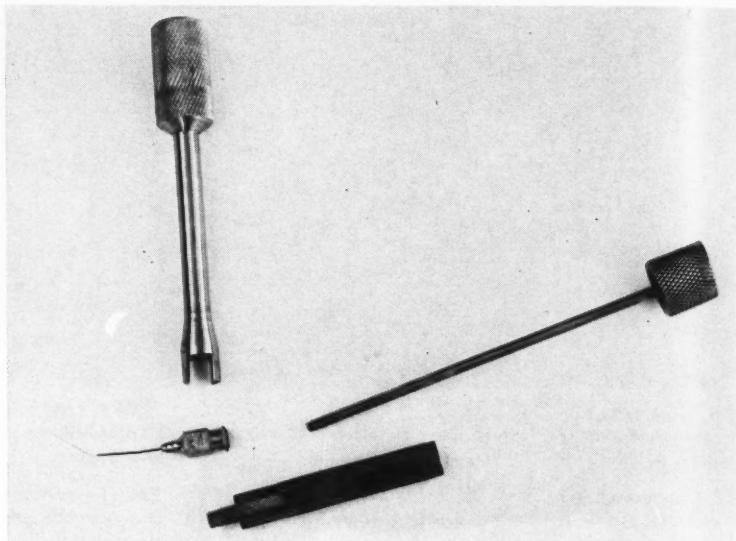
MARTIN GREENBERG, D.D.S., Ithaca, New York

DIGEST

This article presents a new technique for filling the canals of deciduous teeth by means of a heavy paste which is forced through a narrow gauge needle. The procedure is described in detail.

Preferred Material

It is generally agreed that the best root canal filling material for deciduous teeth is a slowly resorbable cement. There are many good root canal cements which resorb slowly; the cement preferred, however, is Pro-Co-Sol's Root Canal Cement® chiefly be-



1.
Shows parts of the special syringe.

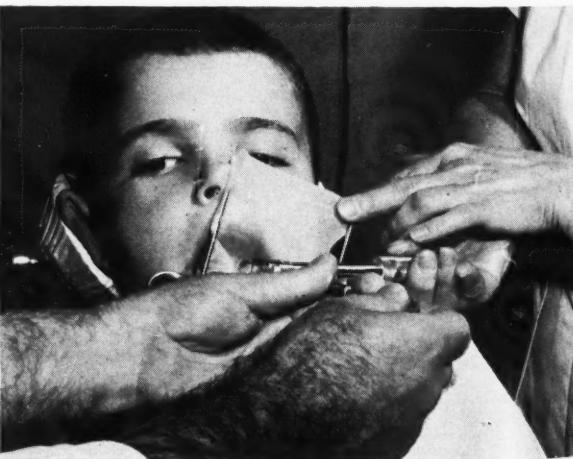
¹Nosonowitz, David M.: Endodontics for Deciduous Molars, New York D. J. **26**:235-239

(June-July) 1960.

²McElroy, S. L., and Wach, E. C.: Endodontic Treatment with a Zinc Oxide Canada Balsam Filling Material, JADA **56**:801-806 (June) 1958.



2.
Insertion of the root canal cement into the hub-end of the needle.



3.
The needle is in place in the root canal. The assistant stabilizes the syringe with a small wrench while the plunger is being turned.

cause of its slow setting quality and smooth consistency.

Procedure

The technique is based on the use of a specially designed syringe which can force heavy paste through an extremely narrow gauge needle.

Special Design—This syringe (designed by Mr. I. Katz, Manager of Consultants, General Electric, Ithaca, New York) consists of an internally threaded barrel with a threaded hub, a threaded plunger, threaded Luer-Lok needle, and a small wrench (Fig. 1).

Three-Quarter-Inch Needle Used—The needles should range from gauges 23 to 25 and their bevel should be removed. Three-quarter-inch lengths are most satisfactory.

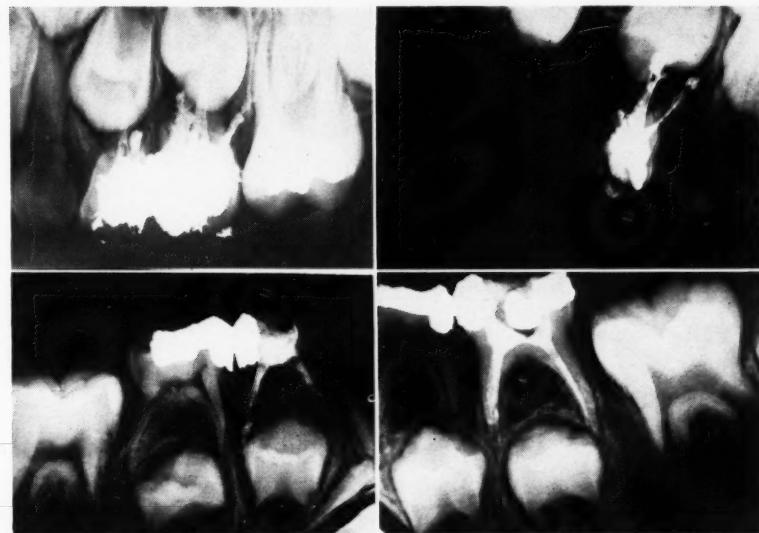
Heavy Paste Mixed—When the tooth is prepared for filling the paste is mixed to a heavy consistency, 3 portions of powder to 2 drops of liquid (the catalyst is omitted).

Steps in Procedure

1. The paste is placed in the hub-end of the needle.
2. The needle is assembled on the syringe barrel.
3. The plunger is turned until a small amount of paste is extruded.
4. The needle is then inserted into a canal and as the cement is forced out, the needle is slowly withdrawn. It is helpful to have an assistant stabilize the syringe with the small wrench while the plunger is being turned (Fig. 3).

Apparatus Easily Cleaned

All elements of the apparatus can be easily cleaned even if the cement hardens completely in the syringe and needle. Heat will soften any and all



4A, 4B, 4C, and 4D.

Shows a series of cases of root canals in deciduous teeth that have been filled by the injection technique.

of the root canal cements. Heating the syringe gently over a bunsen burner flame will soften the paste so that the

syringe can be disassembled and cleaned.

326 North Geneva Street

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Edward J. Ryan, D.D.S.
Editor, DENTAL DIGEST
708 Church Street
Evanston, Illinois

Facial HERPES ZOSTER

ROBERT A. ATTERBURY, B.S., D.D.S.*, Oak Park, Illinois, and

SUNDER J. VAZIRANI, D.D.S., M.S.**, Punjab, India

DIGEST

This article discusses a common and extremely troublesome disease which is often difficult to diagnose. The etiology and historical aspects of the disorder, symptoms, and characteristic features are described. Methods of treatment which have been used successfully are suggested.

Definition

Herpes zoster, or shingles, is a common disease with certain unique characteristics. It is a major herpes associated with unilateral neuralgic pain. Frequently the pain is present without evidence of any characteristic skin eruption. If the facial nerves are involved, the physician or dentist may be led to believe that the source of the disease is intraoral and consequently be led to consider clinical and radiographic examination of the oral structures and possible loss of some teeth. Herpes zoster is far more severe than other types of herpes and is believed to be caused by a filterable virus.

Herpes zoster is an acute inflammatory disease, characterized by unilateral groups of small vesicles mounted on inflammatory bases, running in a zone (zoster) as far as the midline following the distribution of certain nerve trunks, and is preceded by neurologic pains, which in old people may be extremely persistent and quite severe.

Etiology and Incidence

The disease is believed to be caused by a filterable virus. The responsible etiologic agent appears to be closely related to the virus that causes chickenpox, if not identical with it.

Mechanism of Transmission Unknown — Although herpes zoster is transmissible, the exact mechanism of its spread from person to person is not clearly understood. Children exposed to adults with herpes zoster may develop chickenpox after a 14- to 18-day incubation period, and adults exposed to children with chickenpox have been known to develop herpes zoster. In general, however, herpes zoster is unusual in children and chickenpox rare in adults.

An attack of herpes zoster results in permanent immunity to other attacks.

Possible Causes — Herpes zoster is probably a specific infectious disease, involving the posterior spinal roots and ganglia. It is also thought to result from irritation of a posterior root ganglion of the spinal nerves by tumors, leukemia, spinal anesthesia, or an extra medullary ganglion of a cranial nerve. Symptoms of herpes zoster may be caused by any inflammation of the sensory nerve ganglion.

Time of Occurrence — The disease is more prevalent in the spring and fall. It occurs more frequently in persons over 45 and more men than women are affected by it.

Contributing Factors — Fatigue, trauma, exposure to cold and wet, and the presence of some serious debilitating organic or toxic disease predispose to herpes zoster.

Additional Predispositions — Other diseases that may predispose to herpes zoster are cancer of the breast, tuberculosis, Hodgkins disease, and the use of arsenical or heavy metal drugs. There is no evidence that herpes zoster associated with these diseases is basically different in these circumstances.

Pathology

Herpes zoster was known in ancient times. The predominant pathologic lesion is located in one or more posterior spinal ganglia. There is also an involvement of the corresponding sensory dermatomes with the characteristic skin lesion. This was the foundation of early knowledge of the segmental distribution of the sensory nerve endings from each spinal nerve root to the skin.

Involvement of Nervous System — Recent studies indicate that, while involvement of one or more sensory posterior spinal ganglia is the predominant lesion, adjacent parts of the nervous system may be affected to a lesser degree. This tends to explain other clinical features that are often noted in herpes zoster, such as necrosis of the ganglion, the presence of lymphocytes in the spinal fluid, and a possible peripheral mononeuritis involving both the sensory and motor

*Adams, R. D.: Pathological Features of Herpes Zoster, *Bull. New England M. Center* 6:12 (Feb.) 1944.

**Baily, P.: Herpes Zoster, *Postgrad. M.* 12:127-132 (Aug.) 1952.

^Baird, P. C.: Herpes Zoster, *New England J. Med.* 228:568-577 (May 6) 1943.

^Cheatham, W. J.: The Relation of Herpes Unreported Lesions to Pathogenesis of Herpes Zoster, *Am. J. Path.* 29:401-411 (May-June) 1953.

^Mead, S. W.: Diseases of the Mouth, ed. 5, St. Louis, The C. V. Mosby Company, 1940.

^Sutton, R. L.: Diseases of the Skin, ed. 7, St. Louis, The C. V. Mosby Company, 1928.

segmental roots as well as the spinal nerves.

Possible Results of Neurotropic Virus Infection—Microscopically the nervous system shows changes characteristic of a neurotropic virus infection. These lesions can explain the nerve root pain, the increase of lymphocytes in the spinal fluid, and the occasional local muscular weakness produced by this disease.

Reaction May be Extended—There have been cases reported in which the reaction of the nervous system to the virus is not limited to a unilateral segment of the spinal cord; large areas of the cord or brain may be involved and myelitis or meningo-encephalitis may be produced. Muscular weakness is more likely to be a problem when the ganglia of the nerves that supply the extremities are affected and especially when there is involvement of the sensory ganglion of the seventh cranial nerve which may cause a facial paralysis. With the ophthalmic form, paralysis of the extra-ocular muscles may be a sequela.

Vesicle Formation—Skin lesions observed along the course of the intercostal nerves, or lesions of the facial variety have an inflammatory base on which vesicles are arranged in groups and may appear on any part of the body. Only one side, as a rule, is affected (Fig. 1). The mechanism of the vesicular formation is not clear but may result either from a migration of the virus along the sensory nerves to the skin or from antidromic impulses (sensory nerve impulses

which travel in the wrong direction) which are believed to release histamine-like substances in the skin. These substances dilate the superficial vessels and produce erythema and a change in capillary permeability which allows leakage of serum and results in edema and vesicle formation.

Duration of Infection—Sharp neurologic pain precedes and accompanies the eruption. The fluid in the vesicles soon becomes turbid, dries up, and forms yellow-brown crusts which fall off in a few days. The disease lasts, as a rule, from one to three weeks.

Signs and Symptoms

The herpetic virus may affect any spinal segment, the most common location being the thoracic area. The lumbar and cervical segments are occasionally involved. Involvement of the sensory ganglia of nerves to the extremities is distinctly less frequent and cranial sensory ganglia involvement, except for the upper branch of the trigeminal nerve, is rare.

Involvement of Fifth and Seventh Cranial Nerves—Herpes zoster involving the fifth and seventh cranial nerves requires special comment. The first branch of the trigeminal nerve supplies the cornea of the eye. When the virus spreads over this nerve, it may involve the cornea with the possible consequence of other serious ocular sequelae. These patients should have ophthalmic consultation and usually should be hospitalized be-

cause of the possible grave effects of this disease on the eye. Involvement near the eye can cause permanent damage of that organ.

Results of Seventh Nerve Involvement—When the seventh nerve is involved, the herpetic vesicles appear on the external ear and sometimes on the anterior pillar of the fauces and the soft palate. Facial paralysis of the affected side and deafness or vestibular disturbances singly or in combination, often accompany this herpetic eruption. Some of these combinations may remain as permanent disabilities.

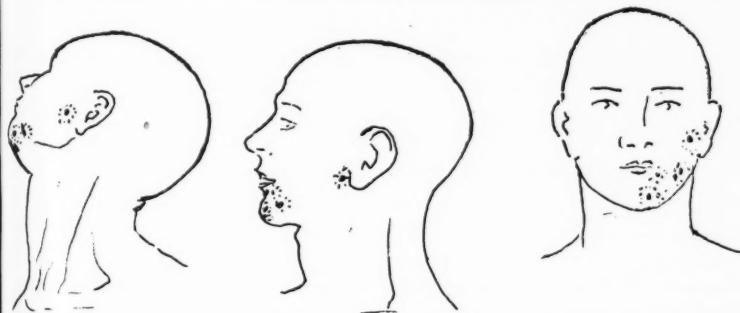
Impacted Third Molar—Cases have been reported of herpes zoster that appeared to be due to impacted third molars and persisted until after removal of the impacted molar. It has been noted that the oral lesions disappear more quickly than skin lesions.

Prodromal Period May Exist—The average duration of an uncomplicated case of herpes zoster is about two or three weeks. As in most infectious diseases there is often a prodromal period consisting of one or two days. The symptoms in this stage are slight fever, malaise, and loss of appetite. Usually symptoms are not noticed by the patient.

Pain an Indicating Factor

The main and, often, the presenting symptom is pain in the segmental skin area in which the rash develops later. The character of the pain varies greatly but it is usually neurologic and paroxysmal. Like many nerve root pains it is worse at night and intensified by movement, coughing, and eating. At times the pain is persistent and burning in character. Paresthesia of the skin may develop spontaneously or be brought on by touching the area. On rare occasions the pain may be absent or occur simultaneously with the skin rash.

Pre-eruptive Pain—This may persist for one to four days before the erythema and vesicles are noted. At this stage when the pain is the only symptom, an erroneous diagnosis is often made. If pain is over the left chest, cardiac disease may be suspected. Any thoracic localization may



I.
A diagrammatic sketch to show the distribution of the rash on the skin when the herpes zoster involves the face. The rash stops at the midline both anteriorly and posteriorly involving the mandibular division of the left trigeminal nerve.



2.
Left lateral view showing the facial skin lesions which have formed a band limited to the segmental area, the zoster (zone) following the left trigeminal nerve distribution.



3.
Enlarged view of dermal and tongue lesions showing the vesicular clusters on erythemic plaques.

stimulate pleurisy. Many physicians strap the chest wall with adhesive tape to minimize the pleuritic pain, a procedure which can have unfortunate results if it is used on the skin area which will shortly be the site of the vesicular eruptions of herpes zoster.

Dental Pain Simulated—Pain over the second and third branch of the trigeminal nerve can simulate dental pain and lead to unnecessary removal of teeth.

Hospitalization Rarely Required—Except for patients with the cranial type of herpes zoster most patients have been admitted to the hospital because of idiopathic pain or because the cause was wrongly diagnosed. Occasionally patients who have been admitted for other conditions develop herpes zoster while in the hospital. Nurses, when giving the patient his daily care, are often the first to report the onset of the rash.

Characteristic Features

The most characteristic feature of the disease is the skin rash. This is limited to the dermal segment supplied by the sensory nerve from the involved sensory root ganglion. The rash is almost always unilateral and limited to one or more spinal root segments. Skin lesions appear as patches and then coalesce to form a band limited to the segmental area

(Fig. 2). The rash never crosses the midline of the body. A bilateral segmental herpetic eruption is quite unusual and, contrary to popular belief, is not necessarily fatal.

Facial Erysipelas Simulated—The erythemic base may be present for 24 hours or longer before the vesicular eruption appears. This also causes diagnostic confusion as the rash may be mistaken for an initial cellulitis or erysipelas. It is particularly true that when there is involvement of the first branch of the trigeminal nerve, the red rash on the forehead strikingly simulates facial erysipelas. However, an erysipelas rash is never limited to the midline of the face and it is not preceded by pain as in herpes zoster.

Localization Aids Diagnosis—Vesicular clusters soon appear on the erythemic plaques (Fig. 3). The rash strongly resembles that seen in a dermatitis venenata such as poison ivy. The sharp localization to a spinal root segmental area and the preceding pain make differential diagnosis possible.

Broken Lesions Require Care—The vesicles are at first clear, soon become turbid, and gradually break down. Skin care at this stage is extremely important. Every effort must be made to prevent secondary infection. The skin lesions should be kept covered with sterile dressings.

Scarring May Occur—When the

vesicles involve only the epidermis, they may heal without scarring. When the basal layer is involved, scarring may result. This is common in herpes zoster especially when the vesicles are hemorrhagic or when they become secondarily infected. The cosmetic effect of scarring is especially important in facial lesions (Fig. 4).

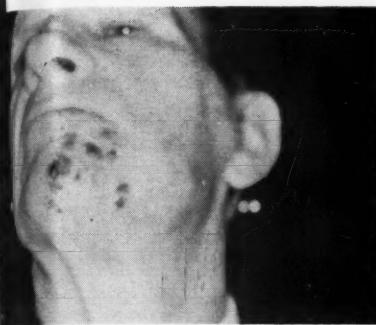
Once the lesions disappear, they do not usually recur.

Treatment

Since many patients recover spontaneously, the treatment of herpes zoster has been difficult to evaluate. The viral etiology of this disease makes the treatment by an antibiotic less likely than in infections due to bacteria. While antibiotics may not directly influence the virus, they help to lessen the danger of secondary infection (Figs. 5 and 6).

Medication Utilized—The erythema and vesicles of the skin should be protected by a covering of sterile gauze. In the average mild case the application of calamine lotion to the affected area usually relieves discomfort. Boric acid ointment is often used after the ruptured vessels have dried. Analgesics such as acetophenetidin, codeine, acetylsalicylic acid, and morphine are often required.

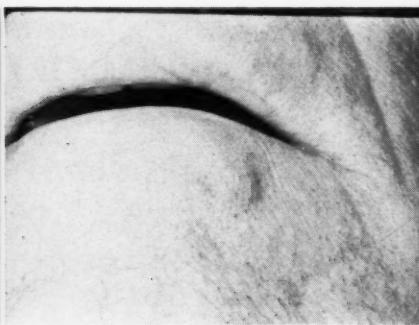
Other Medical Procedures—Some severe skin cases seem to defy ordinary



4.
View of dermal lesions at twelve days. The lesions have been limited to the left side and the midline. The vesicles involve only the epidermis and appear to be healing without scarring.



5.
View one month after onset of illness revealing a good cosmetic effect and normal appearing skin tissue.



6.
Enlarged view one month after onset of illness showing normal tissue appearance.

treatment and may require dermatologic consultation. In some cases, relief of herpetic pain has been the result of various methods of treatment such as roentgen irradiation of the sensory root ganglion, paravertebral sympathetic block with local anesthesia, autohemotherapy and the use of such drugs as sodium iodide, pituitary extract, thiamine, moccasin venoms. Several neurologic procedures have been proposed to relieve the more serious types of persistent postherpetic neuralgia.

Cortisone May Be of Value—Recent reports suggest that cortisone may be of value especially when the disease is severe and the patient is in the older age group.

Summary

Herpes zoster, or shingles, is a relatively common infectious, unilateral neurologic disorder which runs a limited course, is usually painful, may cause diagnostic confusion, often leaves residual skin scarring, occasionally causes permanent muscular weak-

ness and a persistent painful neuralgia.

The etiology, incidence, pathology, signs and symptoms, and treatment of herpes zoster have been discussed in detail as the infection applies to any area of the body, usually the thoracic area, but especially as it applies to the facial area.

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“Burning Lips” Associated with Esophageal Reflux

MAURICE GARRETT, M.B. (Lond.), M.R.C.P.

Discussion

All the patients complained of burning sensations of the buccal mucosa; and, except in one case, they were free from any abdominal pain or indigestion. They all were shown to produce esophageal reflux in the supine position.

While aphthosis affecting mucous membranes other than in the mouth must be regarded in a different light, recurrent ulceration of the buccal mucosa, with painful erosions, might profitably be re-

viewed in the light of this experience. It may be that these lesions, and perhaps those called “dyspeptic ulcers” of the mouth, may in fact be due to the action of gastric secretions on the buccal mucosa.

Summary

Three cases are reported in which the patients complained of burning sensations of the tongue, lips, and buccal mucosa, and of an unpleasant taste in the mouth. Two of them had patches of mucosal ero-

sion, resembling aphthous ulceration.

In all three, when supine, stomach contents were shown radiographically to be regurgitated. One patient had a sliding hiatus hernia, but no such abnormality was found in the others.

Esophageal reflux is suggested as a possible cause of some so-called “dyspeptic ulcers” of the mouth.

Adapted from Original Articles, *The Lancet* No. 7165:1377 (Dec. 25) 1960.

THE CLINICAL EVALUATION OF HYDROXYZINE:

A New Psychotherapeutic Agent for Anxiety

in Oral Surgery

WILLIAM B. LINENBERG, D.D.S., M.S.D.*¹, Augusta, Georgia

DIGEST

Many drugs have been used to relieve apprehension in nervous patients about to undergo oral surgical procedures. Until recently, however, the barbiturates were the only reliable drugs available for the acute forms of apprehension. In an attempt to discover a more effective premedication for ambulatory oral surgical patients, one that would permit the patient to remain alert during treatment, a clinical investigation of hydroxyzine (Vistaril) has been completed. A resume of the results obtained from this study is presented in this article.**

Chemistry

There are two forms of hydroxyzine: (1) The oral form contains hydroxyzine as the pamoate salt which is relatively insoluble in aqueous solutions. Chemically, the capsule form is 1- (p-chlorobenzhydryl) -4- 2- (2-hydroxyethoxy) ethyl diethylenediamine salt of 1, 1' methylene bis (2-hydroxy-3 naphthalene carboxylic acid).

(2) The injectable form contains the dihydrochloride salt of hydroxyzine which is water soluble and can be administered both intramuscularly and intravenously.

Pharmacologic Effects

Some of the benefits demonstrated from the drug are:

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**The Vistaril used in this study was supplied by Pfizer Laboratories, Division of Pfizer & Company, Inc., Brooklyn, New York.

1. Ayd¹ has reported that psychotic patients have received hydroxyzine in doses of 1000 milligrams daily for periods of up to 30 days with no significant reactions.

2. A muscle-relaxant effect of hydroxyzine in experimental animals has been demonstrated by Hutcheon and co-workers.^{2,3} Indications were that the drug depressed both the monosynaptic and polysynaptic pathways by a supraspinal site of action, probably acting on the bulbar facilitatory center. Hypertonic muscles were more relaxed than normotonic muscles.

3. One of the outstanding characteristics of hydroxyzine is its ability to muffle exaggerated responses to external or internal stimuli without dulling the patient's perspective.

4. Hydroxyzine is well absorbed from the gastrointestinal tract and is excreted in the urine in significant amounts.

5. Body metabolism is not changed, oxygen consumption is not decreased, and there is no lowering of body temperature.

6. The action of hydroxyzine administered by mouth begins in 5 to 20 minutes, the maximum effect is gained in approximately 30 minutes.

7. The effect of the intravenous injection of hydroxyzine is immediate whereas the action of the intramuscu-

¹Ayd, F. J., Jr.: Tranquillizing Drugs in Private Practice, New York M. J. 57:1747 (May 15) 1957.

²Hutcheon, D. E.; Scriabine, A.; and Morris, D. L.: Cardiovascular Effects of Hydroxyzine (Atarax), J. Pharm. & Exp. Ther. 118:451-460 (Dec.) 1956.

³Hutcheon, D. E.; Scriabine, A.; and Schrogie, J. J.: Pharmacology of Hydroxyzine, a New Tranquillizer Drug. (Presented before the American Society of Pharmacology and Experimental Therapeutics, French Lick, Ind., November, 1956.)

lar injection is within 3 to 5 minutes.

The duration of action is 2 to 6 hours whether administered orally or injected.

Method of Study

Selection of Subjects — Two hundred and forty-two patients, both men and women, who were acutely apprehensive and nervous, were selected from the out-patient oral surgery service of Grady Memorial Hospital. Patients ranged in age from 7 to 78 years with 157 patients (65 per cent) included in the 20- to 50-year age range. No attempt was made to select patients according to age, sex, or type of surgery to be performed. The operations included extractions, the removal of impacted teeth, and alveolectomies.

Study Controlled — The investigation consisted of two phases using random sampling technique:

(1) In the first phase a double-blind study of 100 patients using 50 milligrams of orally administered hydroxyzine and placebo was completed.

(2) The second phase was another double-blind study of 142 patients using 50 milligrams of hydroxyzine, 45 milligrams of secobarbital and placebo, all orally administered.

Purpose of Double Study — The two double-blind phases were studied in order to be as objective as possible. The investigator and patients did not know whether hydroxyzine, secobarbital, or placebo was being administered. All the drugs were packaged in the same manner.

Elimination of Patients in Second

⁴Settel, E.: Clinical Observations on the Use of Hydroxyzine in Anxiety-Tension States and Severe Agitation, Am. Practitioner 8:1584-1588 (Oct.) 1957.

Phase—In the first phase of the study no attempt was made to select patients according to physical status. In the second phase, however, those patients with impaired liver function, idiosyncrasy, and addiction to barbiturates were eliminated from the study.

Degree of Sedation Noted—Before the oral administration of the drugs blood pressure and pulse rate of the patient were obtained. Since the maximum drug effect is approached in 30 minutes, each patient was carefully observed during this period. Blood pressure and pulse were recorded again at the end of this time and the degree of tranquilization or sedation was noted before and during the operation.

Results Classified

For the purpose of tabulating the information obtained the results of each operation were classified in three categories:

1. **Good:** The patient was calm and relaxed with no perceptible nervousness or apprehension. The surgery was performed with ease.
2. **Fair:** The patient was calm and cooperative but there was perceptible nervousness or apprehension. The surgery was performed with relative ease.
3. **Poor:** No tranquilizing or sedative effect was noted. The surgery was performed with great difficulty.

Correct Dosage Evaluated

Each patient received orally 50 milligrams of hydroxyzine, 45 milligrams of secobarbital, or a placebo. By means of clinical trial and evaluation, it was determined that 50 milligrams of hydroxyzine are just enough to reduce apprehension and nervousness. For this reason, 45 milligrams of secobarbital, similar to hydroxyzine in effectiveness, were also administered.

Results and Discussion

In the first phase of the investigation, a double-blind study was made of 100 patients using 50 milligrams of orally administered hydroxyzine and placebo. Neither the investigator nor the patients knew whether hydroxyzine or placebo was orally administered.

Patients Receiving Hydroxyzine—Among the 67 patients receiving hy-

droxyzine, the effects in 51 patients (76 per cent) were rated as "good," in 15 patients (22 per cent) as "fair," and in 1 patient (2 per cent) as "poor." In the latter instance the surgical procedure was carried out with great difficulty.

Patients Receiving Placebos

Among the remaining 33 patients who received placebos in the double-blind study, the effects in 10 patients (30 per cent) were rated as "good," in 14 patients (43 per cent) as "fair," and in 9 patients (27 per cent) as "poor." In many instances it was evident to the investigator that a tranquilizer had not been administered.

Results Corroborated—In order to substantiate these results another double-blind study of 142 patients was undertaken using 50 milligrams of hydroxyzine, 45 milligrams of secobarbital, and placebo with the following results:

1. Of the 142 patients studied, 47 received hydroxyzine, 49 secobarbital, and 46 placebo.
2. In the 47 patients taking 50 milligrams of orally administered hydroxyzine, 31 patients (66 per cent) were considered "good," 12 patients (26 per cent) were "fair," and 4 patients (8 per cent) were "poor."
3. Of the 49 patients receiving 45 milligrams of orally administered secobarbital, 26 patients (53 per cent) were "good," 15 patients (31 per cent) were "fair," and 8 patients (16 per cent) were "poor."
4. In the 46 patients taking placebo, 21 patients (46 per cent) were "good," 17 patients (37 per cent) were "fair," and 8 patients (17 per cent) were "poor."

Pulse Change Slight—An evaluation of blood pressure changes and pulse changes showed that the increases and decreases in relation to the agent administered were so minimal as to be negligible whether the drug was hydroxyzine, secobarbital, or placebo.

Side Effects Noted

All patients were carefully questioned and observed in the clinic for evidence of drowsiness, dizziness, nausea, skin rashes, headache, and visual disturbances.

First Phase of Investigation—Of the 67 patients receiving hydroxyzine, 6 patients (9 per cent) had side reactions. Five patients (7 per cent) were drowsy and 1 patient (2 per cent) was dizzy.

Second Phase of Study—Of the 47 patients receiving hydroxyzine, 12 patients (25 per cent) had side reactions. Nine patients (19 per cent) were drowsy and 3 patients (6 per cent) were dizzy.

Reactions from Secobarbital—When secobarbital was given to 49 patients, 32 of them (65 per cent) had side effects. Nineteen patients (39 per cent) were drowsy, 9 patients (18 per cent) were dizzy, 3 patients (6 per cent) had a headache, and 1 patient (2 per cent) had "heart burn."

Reactions with Placebos—Of the 46 patients receiving placebos, 4 patients (8 per cent) had side reactions. Three patients (6 per cent) were drowsy, and 1 patient (2 per cent) was dizzy.

Side Effects Minimal—Other than the side effects described in the two experiments there were no other significant reactions or postoperative sequelae.

Summary

1. Two double-blind studies, involving 242 patients, were carried out in order to determine the efficacy of using hydroxyzine in controlling nervousness and apprehension in oral surgery.

(a) In the first experiment, involving 100 patients, the effects in 51 of 67 patients, or 76 per cent, who received 50 milligrams of orally administered hydroxyzine were rated as "good." Among the patients receiving placebos the effects in 10 of 33 patients or 30 per cent were rated "good."

(b) In the second experiment, consisting of 142 patients, the effects in 31 of 47 patients, or 66 per cent, who received 50 milligrams of orally administered hydroxyzine were rated as "good." In the 49 patients taking 45 milligrams of orally administered secobarbital, 26 patients or 53 per cent were judged "good." With placebo, 21 of the 46 patients or 46 per cent were evaluated as "good."

(Continued on page 586)

A Simplified DENTURE PROCESSING TECHNIQUE

RAPHAEL ESCOE, B.S., D.D.S., Massena, New York

DIGEST

This article describes a simple and rapid technique covering laboratory operations from the waxed-up denture to the finished appliance ready for milling and insertion. The entire procedure requires less than three hours. It is designed to be done in the dental office laboratory by the dentist or his assistant.

Half Flasking

Handler Ejecting Flasks should be used. The following steps should be taken:

1. Remove master models with wax-up from the articulator (Figs. 1 and 2). Be sure that the cast fits the flask. If it is too large trim it.

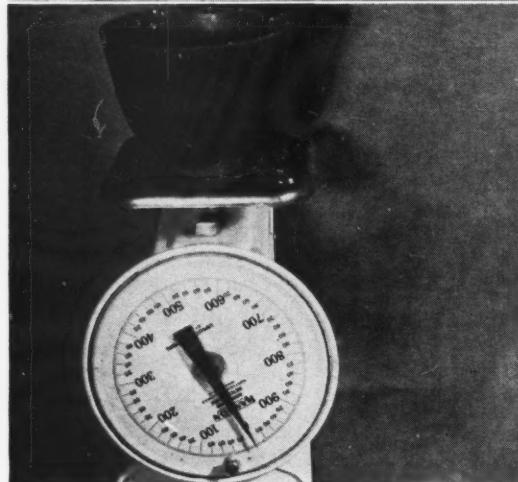
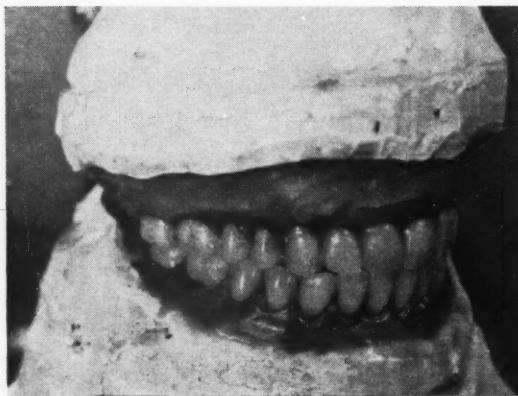
2. Using the Hanson Scale (Fig. 3) add 300 grams of French's impression plaster to 180 grams of water. Spatu-

late. (This is enough for 2 dentures.)

3. Fill the lower half of each flask with plaster.

4. Seat the master cast into the soft plaster. With a wet finger shape the mass so that there are no undercuts and remove the excess. Avoid getting plaster on the waxed-up denture. Clean the edge of the flasks.

5. As soon as the plaster has set (5 minutes after mixing) grease the exposed plaster with petroleum jelly (Fig. 4).



1 (top left).
The waxed dentures on the articulator.

3 (bottom left).
The Hanson Scale facilitates weighing because the dial is returned to zero each time an item is weighed.



2 (top right).
The waxed dentures on master models ready for processing.

4 (bottom right).
The case half flasked and lubricated.



5 (top left).
The full flasked case in the press.

7 (bottom left).
The cleaned molds painted with tin-foil substitute.

6 (top right).
An immersion heater (electric doughnut) in an alginate can used to heat water for the boil-out.

8 (bottom right).
Preparing the plastic.

Full Flasking

1. Put the upper half of the flask in place.

2. Use the Hanson Scale to mix 350 grams of French's impression plaster with 210 grams of water. Spatulate.

3. Fill the flask a little at a time and pound the flask against the bench so as to vibrate the plaster against the waxed denture and teeth thus preventing air bubbles. As soon as the level of the teeth is passed dump the plaster into the flask quickly. Overfill the flask slightly.

4. Place the lid on the flask and, with the plaster still soft, put under pressure in a Hanau flask press (Fig. 5).

Boil-Out

1. A hot plate is a poor instrument for boiling water rapidly. An immersion heater (electric doughnut) is much faster. To avoid shock do not handle the heater while plugged in. It fits an alginate can almost exactly (Fig. 6).

2. Place the flasks in boiling water for 5 minutes. This will soften but not melt the wax and baseplate.

3. Open the flasks on the bench and remove the softened wax and baseplate. Place the lower half of the flask (with master model) into boiling water.

4. Fill the upper half of the flask (with teeth) with chloroform. Allow

to stand for 5 minutes. Dip into boiling water to eliminate the chloroform.

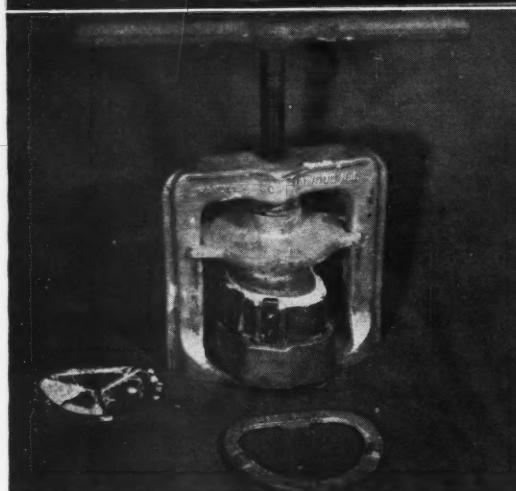
5. Examine the molds. Any remaining specks of wax can be removed with chloroform on a cotton stick. A soft brush and running water are useful for removing denture adhesive carried to the master models during the try-in.

Tin-Foil Substitute

The entire exposed surface of plaster in the flask is painted with a tin-foil substitute such as Magicote® (Fig. 7). Avoid getting this on the teeth.

Packing

Using Caulk's Autocure Resin complete the following steps:



9 (top left).

The packed cases. Note the flash which indicates a fully packed mold. Autocure bench cures in 45 minutes.

11 (bottom left).

Removing the upper half of the flask.

10 (top right).

The Handler Knock-out Apparatus.

12 (bottom right).

The upper half of the flask removed.

1. Pour 10 cubic centimeters of monomer into a clean ointment jar. To this add 34 cubic centimeters of polymer. Tamp gently so that all of the powder is moistened (Fig. 8).

2. Examine every 30 seconds until the resin is of a dough-like consistency and no strings are formed when it is prodded with a spatula.

3. Roll the plastic into a cylinder and place in the upper half of the flask against the teeth. In the case of an upper denture work some of the plastic over the palate.

4. Close the flask and place under pressure in a Hanau flask press (Fig. 9).

5. In a series of over 400 dentures using a single unit for ordinary cases and two units for extra large or bulky dentures not one case was underpacked. Trial packing is a waste of time and is risky because it might strip off the film of tin-foil substitute. Moreover when a self-curing resin is used if the case is underpacked there will not be enough time to mix more acrylic. As soon as flash is seen the operator knows that the case was not underpacked.

Curing

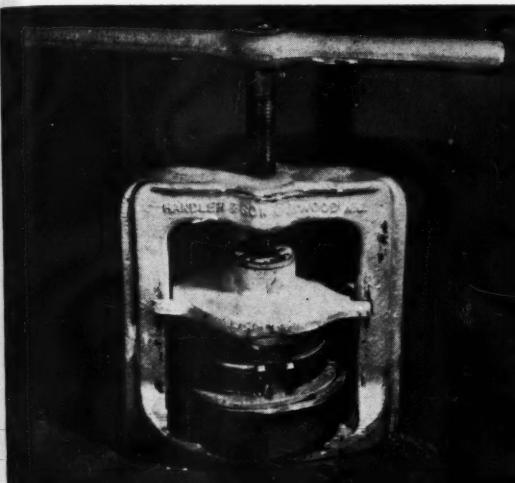
With the autocure method 45 minutes at room temperature is sufficient.

Break-Out

Using Handler Knock-Out Press and Apparatus (Fig. 10) the following steps are taken:

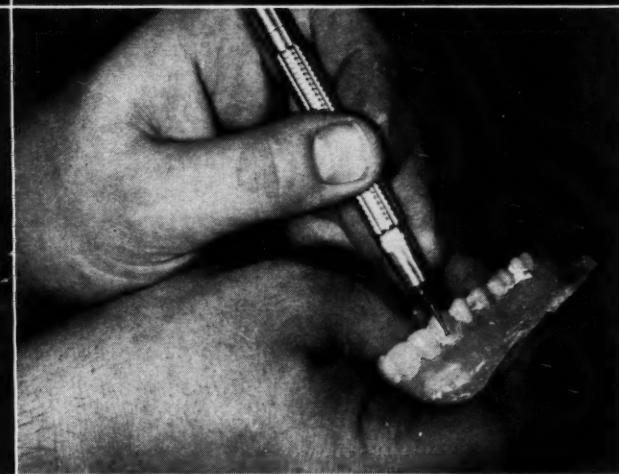
1. Remove the flask from the press.
2. Pry off the top with a knife.
3. Place in press in the manner shown in Figure 11. Turn the screw. The result can be seen in Figure 12.
4. Assemble the parts as shown in Figure 13 and turn the screw. The result is seen in Figure 14. The denture in a block of plaster is free from the flask.

5. Using a plaster saw cut a deep checkerboard pattern into the plaster block. Insert a knife in the cracks to



13 (top left).
Removing the lower half of the flask.

15 (bottom left).
Releasing the denture from the plaster block.



14 (top right).
The denture in a block of plaster is removed from the flask.

16 (bottom right).
Cleaning the teeth.

release the denture (Fig. 15). The mix of plaster used for investing is such that it will break away readily. Often the stone model will present more difficulty than the plaster but saw cuts and prying should remove it. Tapping with a hard instrument to break the stone should be avoided because of the great risk of fracturing the denture.

Finishing

1. Using an inverted cone bur remove any acrylic or plaster which may be on the teeth (Fig. 16). A scaler is excellent for flicking off

acrylic which may be lodged between the teeth.

2. With a raspberry stone remove the flash and smooth the denture by removing bubbles and imperfections (Fig. 17).

3. At the lathe using muslin wheels and felt cones polish with (a) wet pumice at slow speed, as soon as all of the scratches are gone; (b) Tripoli on a dry wheel at high speed; (c) Marvel polish on a dry wheel at high speed (Fig. 18).

4. At no time should the tissue surface be buffed.

5. As soon as polishing is finished

scrub the denture with hot water and detergent. It is now ready for milling and insertion (Fig. 19).

Comments

1. This technique is designed to be done in the dental office laboratory by the dentist or his assistant. My dental assistant is a nineteen-year-old boy with a severe physical handicap. He mastered this technique after two days of training.

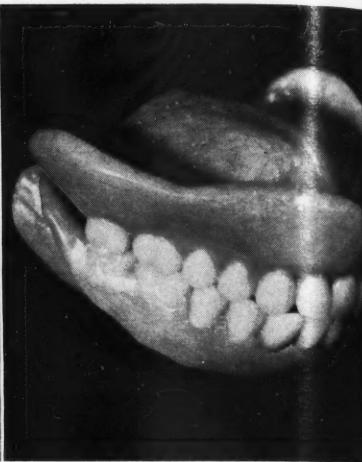
2. By using this technique one day denture service is easy which I have found to be strong encouragement to the practice of prosthetics.



17.
Removing the flash and smoothing.



18.
Polishing at the lathe.



19.
The dentures ready for milling and insertion.

3. Processing dentures in the dental office is economically feasible.

4. The fact that the dentist is emancipated from the commercial laboratory is important.

Main at Water Street

The Clinical Evaluation of Hydroxyzine: A New Psychotherapeutic Agent for Anxiety in Oral Surgery

(Continued from page 581)

2. Side reactions were evident in both studies:

(1) In the first phase 6 patients (9 per cent) receiving hydroxyzine and 5 patients (15 per cent) receiving placebo had side effects.

(2) In the second phase, side reactions were present in 12 patients (25 per cent) receiving hydroxyzine, in 32 patients (65 per cent) taking secobarbital and in 4 patients (8 per cent) receiving placebo.

3. Fifty milligrams of hydroxyzine appear to be the starting dosage. If the patient does not respond to this initial

dose, an increase of 25 to 50 milligrams should suffice for adequate tranquilization.

4. The maximum effect of orally administered hydroxyzine is reached in approximately 30 minutes.

5. Increases and decreases in blood pressure and pulse were so minimal that they were negligible whether hydroxyzine, secobarbital, or placebo was administered.

Conclusions

Hydroxyzine affords a safe and effective psychotherapeutic agent for

the tense and apprehensive patient anticipating an oral surgical procedure. With the introduction of new tranquilizing drugs the dentist does not have to rely solely on the barbiturates to reduce fear and anxiety which are present in most dental patients. Hydroxyzine closely approaches the ideal drug for premedication in ambulatory oral surgical patients; the patient remains alert during treatment and can resume normal activity immediately afterward.

2838 Cornelia Road

ADDRESS CHANGES

When you change your address, please allow six weeks for your notice to use to become effective.

Always include old address with new address. Your postal zone number should be shown as this not only helps the post office but speeds delivery of

mail. Send address changes to:

DENTAL DIGEST
1005 Liberty Ave.
Pittsburgh 22,
Pennsylvania

The EDITOR'S Page

FOR ALMOST thirty years this publication has stressed the relationship between systemic and dental disease. The regular department MEDICINE AND THE BIOLOGIC SCIENCES is planned to acquaint the dentist with the nature of modern methods of treating systemic disease. There are two reasons for this editorial policy: 1) to help the dentist in the evaluation and understanding of his patient as a total human being; 2) to give the dentist information that will make it easier for him to communicate with his medical colleagues. Dentists are not prepared or advised to *treat* any systemic disease.

We observe with favor the increasing number of dentists who are publishing in the medical literature and are thereby acquainting their physician co-workers with the nature and treatment of dental disease. Most physicians are as poorly informed on dental disease as dentists are on systemic disease. Editors of medical and dental journals have the responsibility to help break through this barrier of ignorance that separates the two important health professions.

A notable article on periodontal disease appeared in *Medical Science*.¹ This publication by a dentist states the subject clearly and forcefully. The important emphasis is: 1) that periodontal disease is widespread; 2) that in most cases it is of local rather than systemic origin; 3) that it can be treated definitively and successfully by a dentist only.

As Blum shows, the physician has often been aware of the systemic nature of some gum symptoms to the exclusion of the local causes: "Although changes in the gingivae as a diagnostic aid in such systemic diseases as leukemia and frank vitamin deficiency have not gone unnoticed by the medical profession, it is doubtful that physicians appreciate the prevalence and the significance of disease of the gingivae of local origin. Consequently, when confronted with a complaint of bleeding — the most common symptom of gingival disease — the physician is inclined to think first of a blood dyscrasia,

despite the fact that it is probably one of the gingival disorders least frequently seen."

The casual, offhand, and arbitrary manner in which some physicians order patients, "Better have your teeth out," is no longer too prevalent. This disposition to ignorant authority may still exist in some places and among some physicians, but the present and growing attitude is for the physician to suggest to the patient, "Better consult your dentist." This kind of referral is more in keeping with the proper professional tradition and requires the dentist to respond as a consultant by sending the physician a detailed and written report of the diagnosis and treatment plan. In this cooperative attitude of mutual helpfulness the patient is better served: this is the single test of the efficacy of *any* professional treatment.

The dentist or the physician will benefit the patient most when he recalls why intelligent people desire to retain their natural teeth:

1. Loss of teeth connotes growing old
2. Desire for maintenance of integrity of the body
3. Maintenance of esthetics
4. Shame
5. Repugnance toward wearing dentures
6. Vocational activities."

These six good reasons for maintaining the natural dentition have emphatic psychosomatic overtones. In fact, we have made admirable progress when we recognize that *all* disease has psychosomatic interrelations. The loss of teeth is often a far deeper psychologic insult than we have understood.

Trauma to the dental supporting tissues (from malocclusions, prematurities, calculus, improperly constructed restorations, pernicious habits) can be corrected only by a dentist. We have never made this fact plain enough. These traumata are among the major reasons for the loss of teeth involved in periodontal disease. The degenerative types of periodontal disease are in lower incidence than the traumatic-inflammatory types. This is another fact that physicians should know.

¹Bloom, Jack, D.D.S.: Diseases of the Gums, *M. Science* 8:513 (October 25) 1960.



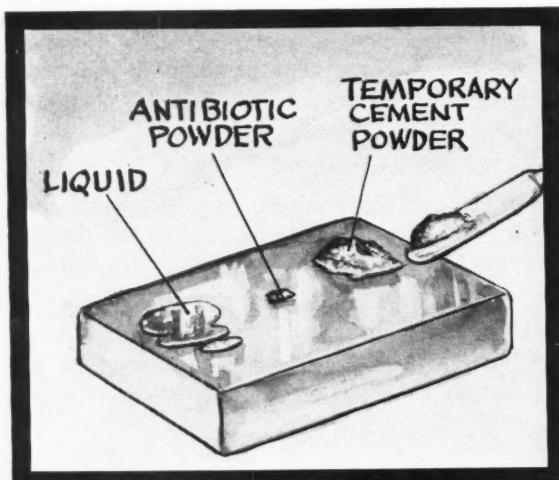
1

Clinical and Laboratory

Separation for Silicate Restorations

J. T. Meredith, D.D.S., Kansas City

1. Provide the patient with pieces of sterile cotton cord to place between the anterior teeth one and a half hours before he comes for appointment. The use of this cord will promote gentle separation for the placement of silicate restorations.

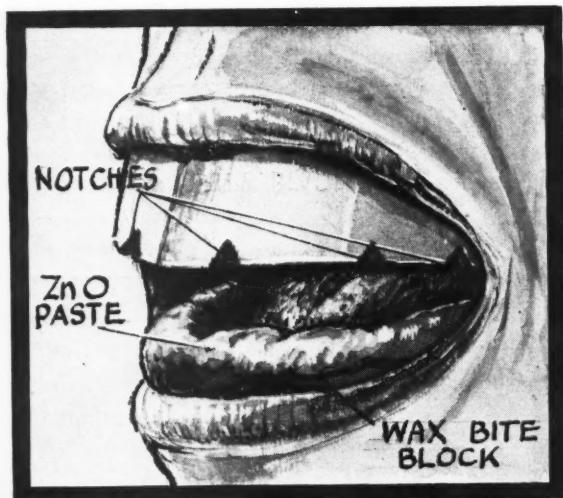


2

Combination of Antibiotic Powder and Temporary Cement

Harry M. Smallen, D.D.S., Brooklyn

2. The addition of a small amount of an antibiotic powder to the mix of resin temporary cement will prevent the cement from absorbing food odors.



3

Simplified Bite Registration Technique

Howard B. Johnson, D.D.S., Sikeston, Missouri

3. After the proper vertical dimension is obtained notch the upper wax bite block. Cover the lower bite block with zinc oxide paste. Ask the patient to swallow and bring the blocks together and hold them together until the paste sets.

READERS are Urged to Collect \$10.00

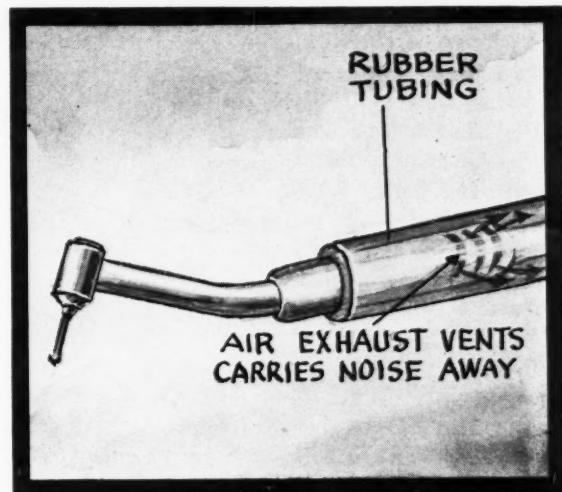
For every practical clinical or laboratory suggestion that is usable, DENTAL DIGEST will pay \$10 on publication. You do not have to write an article. Furnish us with rough drawings or sketches, from which we will make suitable illustrations; write a brief description of the technique in-

SUGGESTIONS . . .

Reduction of Noise in Air Turbine

Robert Hess, Jr., D.D.S., Battle Creek, Michigan

4. A strip of rubber tubing placed over the intake and exhaust openings on some air turbine handpieces will reduce the noise factor.

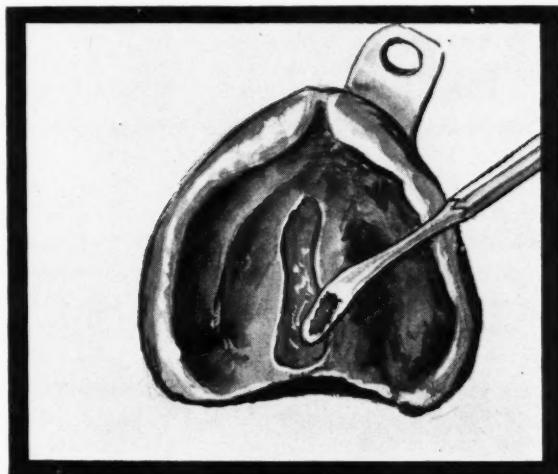


4

Relief Area for Full Upper Dentures

Eugene M. Meckler, D.D.S., Cleveland

5. Scrape relief area in a zinc oxide type impression before securing the model. This procedure will eliminate the need for a metal relief piece placed on the model.

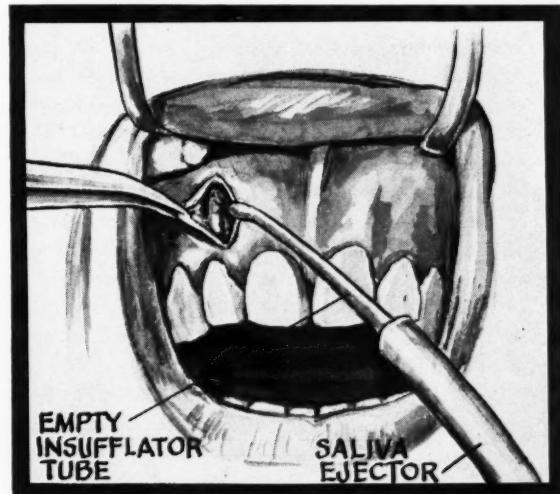


5

Insufflator Tube Used for Suction

C. L. Chen, D.D.S., Warwick, Rhode Island

6. Attach an empty insufflator tube to the saliva ejector and use as a suction device in minor oral surgical procedures.



6

volved: and jot down the advantages of the technique. This shouldn't take ten minutes of your time. Turn to page 596 for a convenient form to use.

Send your ideas to Clinical and Laboratory Suggestions Editor, DENTAL DIGEST, 708 Church Street, Evanston, Illinois.



Iron-Deficiency Anemia

The exchange of iron between man and environment is small and iron excretion is of little importance in determining iron balance. The cumulative daily loss in urine and stools and from skin surfaces is estimated at 1 milligram or less. Iron absorption is more active in regulation of body iron. Dietary iron is less well absorbed than iron salts. From a usual diet that contains 10 to 30 milligrams of iron, compensation to body needs ranges from less than 1 milligram for a normal male to 3 or 4 milligrams for an iron-deficient person.

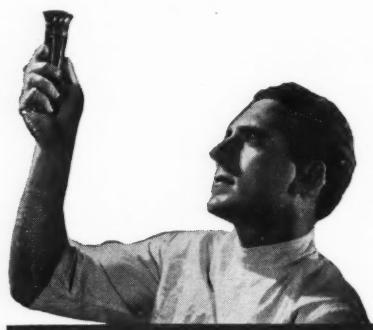
Peaks in iron deficiency can occur throughout life. During infancy, an excess of about 200 milligrams is required to meet the needs of an expanding red cell mass and rapid tissue growth at a time when dietary iron is limited. This requirement is much greater if the infant is born prematurely. During the accelerated growth phase of adolescence, a second peak occurs with requirements of 200 to 300 milligrams per year. Menstruation, pregnancy, and lactation also drain the body's iron stores. These extra requirements exceed the amount which the subject can absorb from the diet.

Iron-deficiency anemia results from a deficit in available iron, that is, iron absorbed from diet plus iron reserves within the body as compared to the iron requirements of the person. During infancy, a close relationship exists between diet and iron deficiency. In the adult, however, iron-deficiency anemia is, with few exceptions, ascribable to blood loss.

A sequence of events occurs in the development of iron deficiency. When a negative iron balance is created through blood loss, pregnancy, or growth, iron is first mobilized from the iron reserve, which is 1,000 to 1,500 milligrams in the adult male. After depletion of these stores, the serum iron falls, hemoglobin synthesis is retarded, and an excess of protoporphyrin accumulates within the

MEDICINE

and the Biologic Sciences



erythrocyte. After several months, hypochromia, microcytosis, anisocytosis, and poikilocytosis appear.

Laboratory diagnosis begins with examination of the blood smear and determination of erythrocyte indexes. Lack of marrow hemosiderin and iron granules in the normoblasts and a low serum iron are specific findings.

Therapy should provide iron in an available form and in adequate amounts to correct the deficiency. The prescription of multiple supplements with iron is to be condemned. These supplements may obscure the diagnosis, do not improve hematologic response, and are an additional expense. The availability of ingested iron is related to solubility and reduced state. Ferrous salts are effective in low dosages and are widely used. Ascorbic acid greatly increases iron absorption through a capacity to maintain iron in the reduced state.

A limitation of oral administration is that therapy is directed specifically at the anemia. While blood values return rapidly to normal, many months of therapy are required to reconstitute tissue iron stores. Response to parenteral and oral iron is accurately

predictable, and failure of reaction usually indicates a mistaken diagnosis.

Coleman, Daniel H.; Stevens, Alexander R.; and Finch, Clement A.: The Treatment of Iron Deficiency Anemia, Blood 10:567-580 (May) 1955.



Hemoptysis Caused by Bronchitis

Respiratory tract hemorrhage is not always a sign of severe pulmonary disease. Even after intensive study, one-fourth of patients with hemoptysis have no apparent source of bleeding and frequently have no further symptoms. In the search for tuberculosis and neoplasm, bronchitis may be overlooked as the etiologic factor.

The bronchial mucosa is extremely vascular and inflammation increases the friability of the mucous membranes. Even slight irritation, therefore, may traumatize the epithelium sufficiently to produce erosions and bleeding.

Blood expectorated by patients with bronchitis is bright red and contains few clots. Bleeding may be profuse but usually lasts only a few days. Dark clots are more characteristic of tuberculosis, infarction, abscess, and bronchiectasis. An antecedent chest cold or grippe, fever, and purulent sputum suggest bronchitis.

Chest films are usually negative, though the vascular markings may be slightly accentuated. Roentgen examination, however, is valuable for excluding tuberculosis, tumor, and abscess.

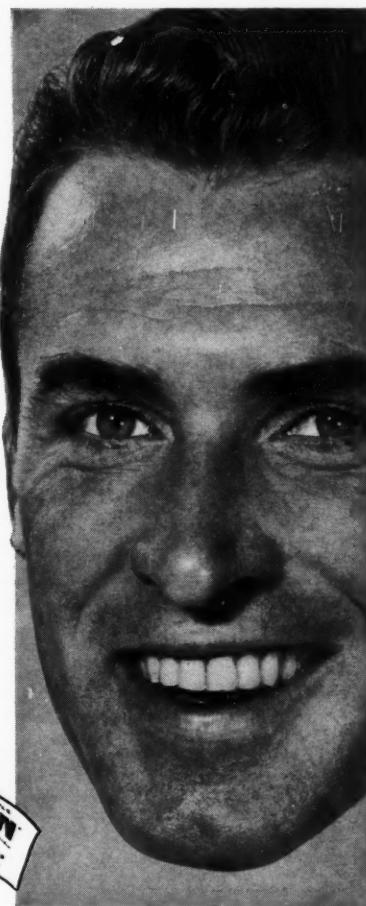
Hilar structures should be examined and the relationship of calcification to the bronchial tree should be determined. Calcified lymph nodes may be a sign of broncholithiasis and the patient should be questioned regarding gritty particles in the sputum. Unilateral hilar thickening suggests carcinoma.

If recurrent episodes of infection and hemoptysis suggest bronchiectasis, bronchograms should be made after symptoms subside. Broncho-

(Continued on page 592)

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scopic examination is preferably done during bleeding but should not be attempted when hemoptysis is profuse because excessive hemorrhage interferes with visualization.

Physical examination should include inspection of the nose and mouth for sources of bleeding, a blood pressure recording, auscultation for the murmur of mitral stenosis, and studies of the clotting mechanism. Vicarious menstruation should be considered.

Treatment consists of bed rest, gentle suppression of the cough reflex, and antibiotics. Cultures of the sputum are helpful for selecting the proper drug, but penicillin is usually helpful.

Anderson, Augustus; Buechner, Howard A.; and Ziskind, Morton M.: Hemoptysis, Bronchial Erosion and Bronchitis, Ann. Int. Med. 42:1246-1258 (June) 1955.



Skin Diving

Skin and self-contained underwater breathing apparatus diving are potentially dangerous and often fatal sports. It is important that both the diver and the physician understand the hazards.

The most common pathologic condition resulting from skin and scuba diving is aero-otitis media. Congestion, inflammation, and pain occur in the middle ear, often with tinnitus, vertigo, and impairment of hearing.

Degree of change varies with (1) the amount of pressure differential between the middle ear and the ambient pressure, and (2) the length of time before pressures are equalized. With slight barotrauma, the tympanic membrane retracts slightly and the malleolar vessels, as well as those in Sharpnell's membrane, dilate. Vessels in the middle ear also expand and negative pressure causes more dilation and engorgement.

Small subepithelial hemorrhages may occur in the tympanic membrane. The mucous membrane of the middle ear becomes congested and swollen,

and the eustachian tube frequently closes the tympanic cavity. If the negative pressure is sufficient, vessels in the middle ear rupture, filling the cavity with blood. With extreme barotrauma, the tympanic membrane ruptures.

The etiology of aerosinusitis is similar to that of aero-otitis media. Because of small orifices, the maxillary and frontal sinuses are most commonly affected.

During descent, the ostium is blocked and a differential in pressure ensues, resulting in a vacuum in the affected sinuses. Engorgement of blood vessels, edema of the mucosa, and hemorrhage in the sinuses equalize the pressure. When the space is filled sufficiently to equalize the pressure differential, the ostium opens.

If the scuba diver holds his breath during ascent, the lungs expand. If the ascent is from a great depth at a rapid rate, the alveoli may rupture and air embolism is likely. Two types of embolism occur, pulmonary and systemic. Pulmonary embolism may arise when a large amount of air enters the systemic circulation and goes to the right side of the heart. Foaming blood, containing large bubbles of air, forms and air is retained after each systole. The right ventricular outflow and pulmonary circulation are obstructed and the right auricle and ventricle become distended. A pronounced rise in venous pressure produces cyanosis and causes sudden death.

Turning the patient on the left side may be lifesaving, since the outflow of the right ventricle is permitted to run in the dependent position. Trapped air is churned into a froth and mixed with blood in the right ventricular cavity. Systemic embolism results from air entering the pulmonary venous channels and being propelled to the left ventricle and the systemic circulation. Ill effects are due to embolic blockage of the cerebral and coronary vessels.

Taylor, G. Dekle: The Otolaryngologic Aspects of Skin and Scuba Diving, Laryngoscope 64:809-857 (June) 1959.

Intestinal Polyps in Children



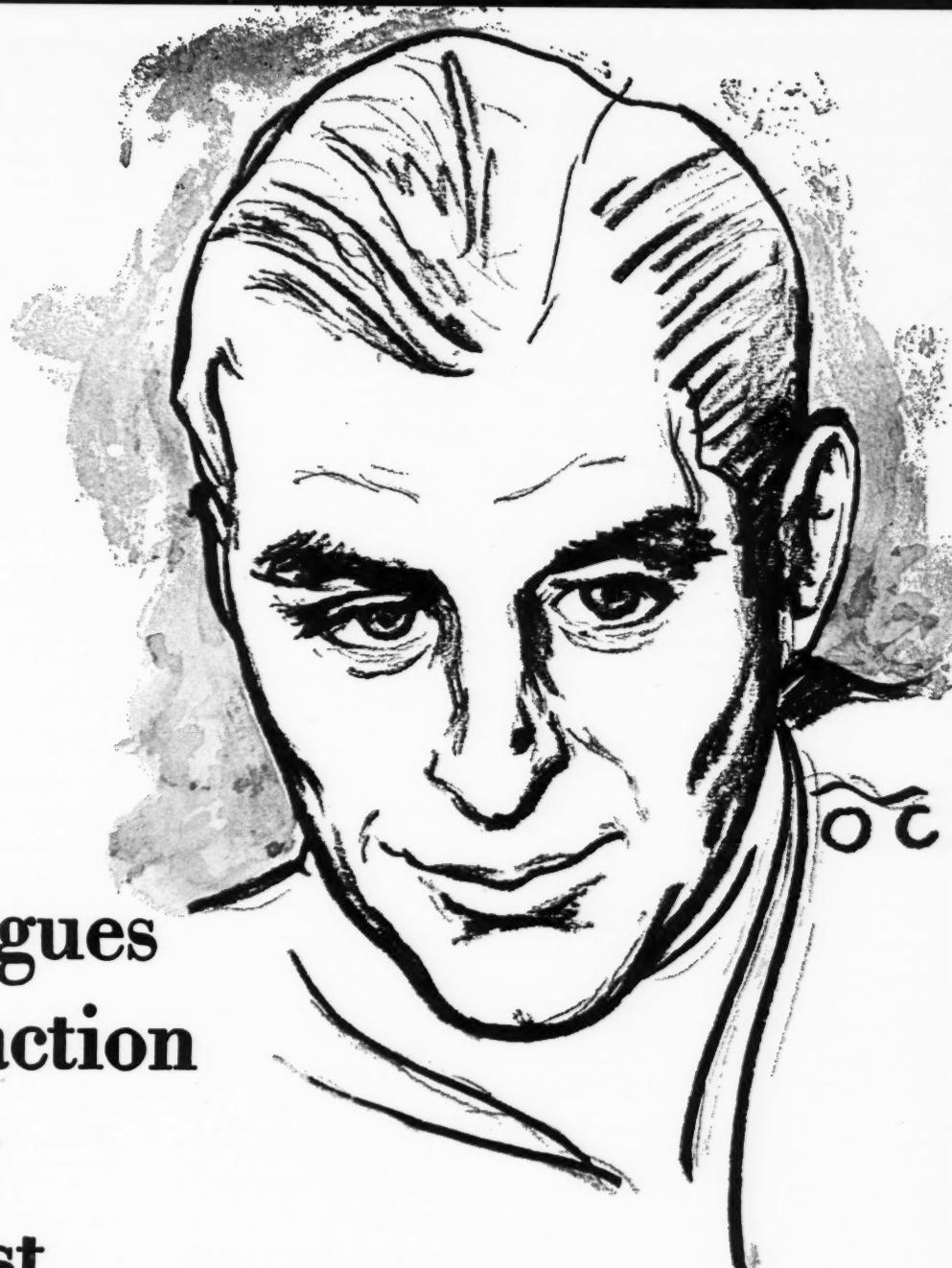
Polypoid lesions of the alimentary tract are frequent in children, occurring more often in boys than in girls. The lesions are usually located in the rectum and sigmoid.

Grossly, childhood polyps have a granular external surface and are globular and gray or slightly red. The lesions are about 1 centimeter in diameter, have no villiform projections, and are not multilobular in structure as adult polyps are. Microscopic examination shows that the simple columnar epithelium of the external surface is replaced by extremely vascular granulation tissue, accounting for intermittent bleeding that is often the predominant symptom.

The body of the childhood polyp is poor in glands and rich in stroma. Cystic dilatation of the glands causes pressure atrophy of the lining epithelium composed of goblet cells. Mitotic figures are rare. Intracystic papillary budding is a constant finding. The connective-tissue stroma is infiltrated with inflammatory cells, particularly eosinophils.

Whether childhood polyps are inflammatory or neoplastic in origin is not known. Many of the lesions appear to be due to inflammation, since only the stroma tissue is increased and the glands are widely separated and appear inactive. Other polyps resemble adenomas. Isolated foci of mucous overproduction which contain signet-ring cells and show epithelial and connective-tissue destruction may produce a superficial resemblance to so-called colloid carcinoma. Childhood polyps, however, are unquestionably benign, having no cellular atypism or mitotic activity that suggests growth. The term adenocarcinoma Grade I should, therefore, not be applied to these growths.

Mauro, Jacqueline, and Prior, John T.: Gastrointestinal Polypoid Lesions in Childhood, Cancer 10:131-137 (February) 1957.



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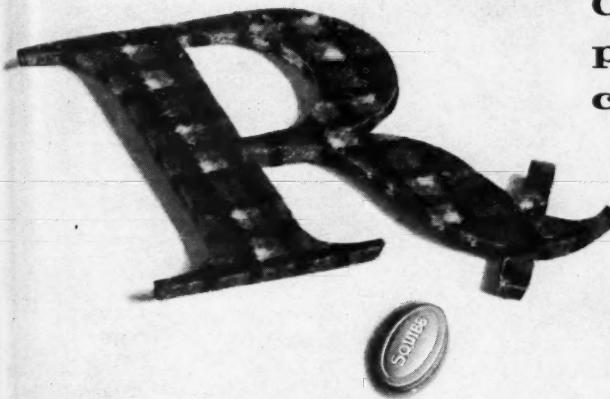
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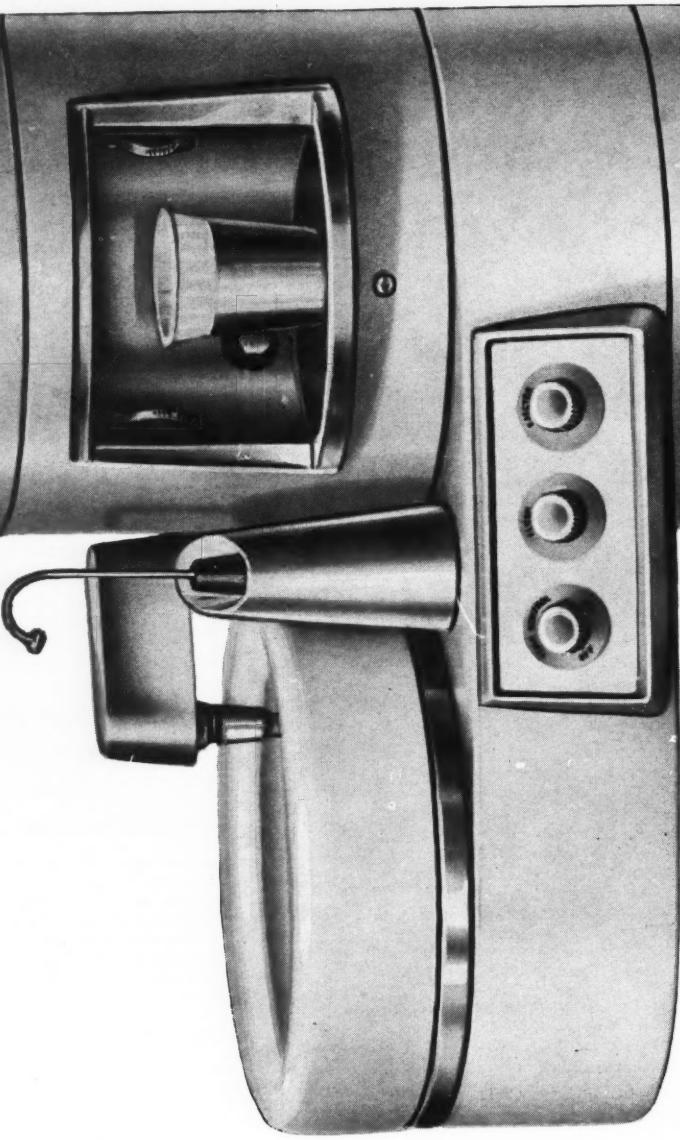
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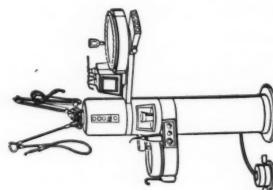
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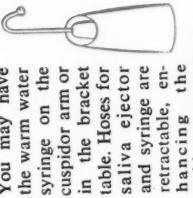


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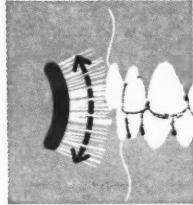
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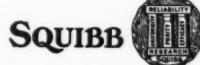
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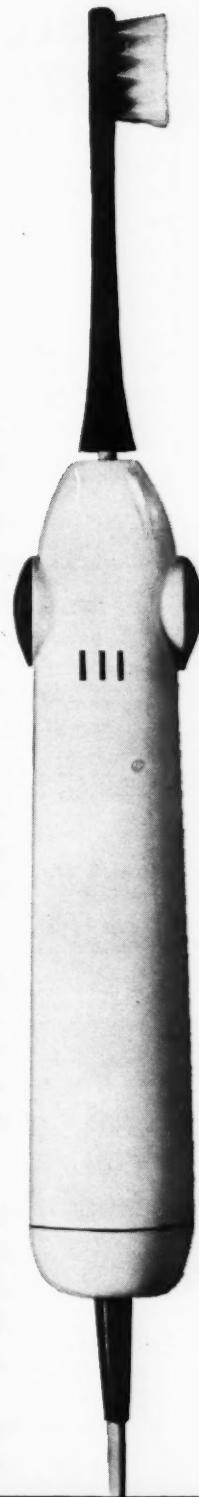
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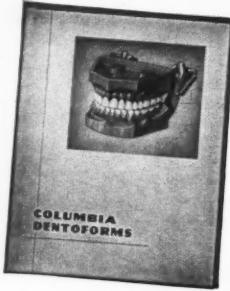
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Contra- Angles



"The Walking Zombie Syndrome"

ARTICLES in scientific publications are usually ponderous. Not so the one in the *Journal of the American Institute of Hypnosis* that describes the people who are walking about in some kind of state resembling death.

If you run into somebody who has one of these complaints he may be suffering from the "walking zombie syndrome."

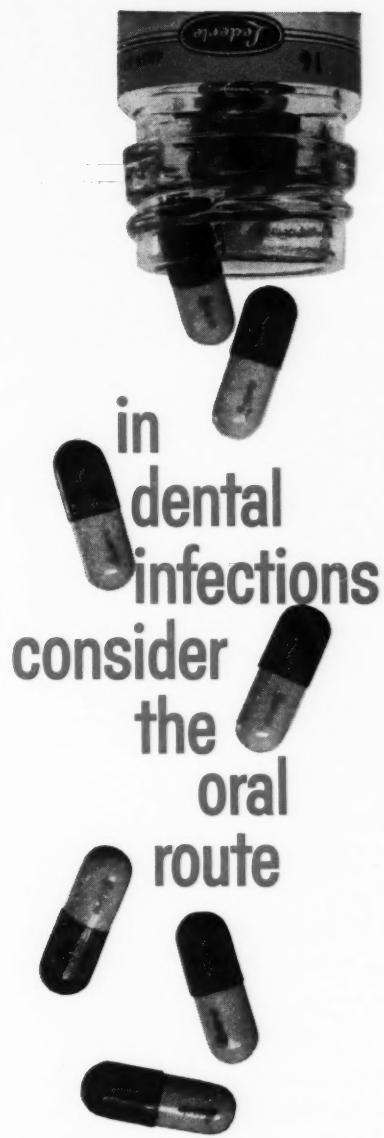
1. I feel dull and listless all the time
2. I am completely emotionless
3. Nothing means anything to me anymore
4. I really have no vitality
5. I just don't take any interest in things anymore
6. I feel like I have lost my personality
7. I am just existing. I don't get any thrill out of anything
8. Life has been a problem; I'm very depressed."

All of us have moments when one or all of these feelings may overtake us. The person who has no periods of feeling inadequate, without purpose, listless is exceptionally blessed. With most of us these periods of depression are associated with ill health or frustration. If we have a fairly sound psyche these episodes are self-limiting and short lived. If they persist too long we had better look for some kind of help.

The "walking zombie syndrome" described by William J. Bryan, M.D. "does not have to do with the fear of death but rather is a condition in which the patient has accepted the fact in his subconscious mind that he is dead already.

"This syndrome is identified and characterized by case histories which

(Continued on page 602)



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contain statements such as 'I feel dull and listless,' 'I am completely emotionless,' 'I have no vitality or life,' 'I am very depressed and feel dead all the time.'

"Patients can be recognized only by taking a careful history using hypno-analytic techniques. The incidence of the disease is widespread, and it should be suspected when the history warrants it. The correct treatment of such a condition involves uncovering the initial sensitizing event, in which the patient accepted the suggestion that he was dead as well as uncovering the symptom producing event, and subsequent intensifying events which increase the severity of the symptoms.

"In order to find these events in the patient's past life, it is suggested that a number of areas of the histories be searched rather carefully. These include all early acute infectious diseases, accidents, injuries, operations,

war experiences, and deaths of close friends and members of the immediate family with whom the patient might be identified."

The next time a patient in your dental chair describes his feelings of uninterest, inadequacy, insecurity you may be treating a corpse that still has a heart beat and respiration: a "walking zombie."

Medical Intelligence

- From time to time we report items of possible interest that appear in the medical journals. One from the *British Medical Journal* describes the technique of freeing the private male parts that may, by misadventure, have become entangled in a zipper that went awry: "Correspondents on this subject don't seem to realize that by cutting the lower part of the zip with pliers or wire-cutters the two halves can be separated with ease. A local anesthetic,

however, may still be necessary to remove the parts embedded in the prepuce."

- The rash of nuclear blasts set off in the atmosphere by the Russians have given us a new phobia to add to the galaxy that now weighs heavily upon us. *Nucleomitophobia* is the name of the fear of the atom.

The medical director at a hospital for mental and nervous diseases has proposed this awesome word. In the opinion of Milton A. Dushkin, M.D., expressed in *Today's Health*, people who are emotionally ill "must find a scapegoat. Anything popular will do. Nowadays it's fashionable for the emotionally ill to blame their confused state on radioactivity in their environment."

People who are sound in mind and emotions share this same fear. A Nobel Prize winner believes that the atmospheric blasts that were released late this summer have polluted the atmosphere to the extent that the incidence of leukemia and bone cancer will increase significantly.

Nobody really knows with any certainty exactly what radioactive fallout does to the human organism over a period of time.

- *Consumer Bulletin* reports "Spike heels on women's shoes are destroying the American home. That was the comment of a city building inspector in a Midwest city. The stiletto heels, particularly when they are steel tipped, are digging into vinyl, rubber, and asphalt tile, and hardwood floors as well. He estimated that greater damage was caused floors by spike heels than by ants, termites, and dry rot. One suggested solution is to introduce the Japanese custom of removing the shoes at the front door before entering the house."

This item does not mention the health hazard of spike heels. Women who walk on these stilts are a menace. If they step on somebody's foot, by accident or design, they can produce a major injury. The stiletto on the foot of a woman is as bad as one in the hand.

There is Nothing Wrong with Youth

One of my grandsons (age 5) sug-

gested to his mother that he and his grandfather prefer periods of *relax* and freedom from the yak-yak of their women. He announced this when we set out on a hike over the sand dunes near his home. When we returned to begin our *relax* we continued our identification: he put on a pair of dime store colored glasses, took off his shoes, picked up a part of the newspaper, and appropriated one of my pipes. This was true rapport!

The psychiatrists, who often have more bizarre theories than the fantasies that obsess their patients, look rather dimly to our future generations. One prominent psychiatrist, Leopold Bellak, M.D. has expressed some dour predictions in an article in *Archives of General Psychiatry*: "I believe that, increasingly, a character structure will develop which we used to consider a character *disorder*: one characterized by shallow, transitory object relations with little subjective feeling. One has seen such characters develop out of environments that did not permit strong identifications, such as in children reared in many different foster homes and in orphanages. This type of character has also been seen in people exposed to overwhelming experiences, such as in former inhabitants of concentration camps. They appear well functioning enough, but hardly anything seems to go more than skin deep; there is a strong armor that wards off all more intense feelings.

"The European shares only a small area of his life with others; he lives behind closed doors and behind fences, does not announce his salary, sleeping habits. . . . 'But the few people who he permits with ease into the inner sanctum become his best friends with whom all is shared.'

"As for the American, almost anybody is admitted to a variety of intimacy; first names, political beliefs, divorces, salary, are all out in the open. But hardly anyone, if anyone at all, is permitted to share the real inner sanctum. Therefore, follows the sense of loneliness, the lack of belongingness.

"Doctor Bellak concluded: 'The exterior, however, may well become more civilized, literally, more urbane: greater interaction and interdepend-

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ence alongside the probably still higher standard of living will probably make for manifestly more amiable relations. A kind of "cocktail party sociability" may prevail, a culture of the urbanely uninvolved."

"While the present middle-aged and some of the young adult generation react with a sense of loneliness and lack of identity, some other and probably the future generation may have a 'shallow' character structure, though of greater cosmopolitan, urbane, smoothness and no great sense of lack of belongingness: The 'lonely crowd' may

become the 'uninvolved one.'"

I have tried to equate the theory of Doctor Bellak with my experiences with young people. I have not found them lacking in individuality, in vigor to defend their views and values, devoid of feeling.

The generation represented by the lad of five with whom I have the strong rapport, and the generation of his parents, are not wanting in conviction and individuality. Among the young people that I know and the ones that I see I have detected no signs of widespread

(Continued on page 606)

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(Continued from page 603)
character disorders. There are certainly beatniks, delinquents, and misfits in society. That is nothing new. We have always had problem people who carried different labels at different times.

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men and women. All is not lost, despite the fear of the atom.

—E. J. R.

The Etiology and Therapy of Acute Pyogenic Parotitis

JOHN S. SPRATT, JR., M.D.,
St. Louis, Missouri

Analysis of Study

Case histories of 178 patients treated for acute pyogenic parotitis in St. Louis hospitals between 1911 and 1959 have been reviewed. Analyses of the results of different methods of treatment used during these 49 years indicated that the septic complications and lethality have been but slightly influenced by the therapeutic methods employed. The one highly significant exception was external drainage for pyogenic parotitis caused by *Staphylococcus aureus*. The utilization of adequate external drainage for staphylococcal parotitis was attended by a significant reduction in septic complications and lethality.

Reaction from Invading Bacteria

The argument has been presented that acute pyogenic parotitis results when Stensen's duct is coincidentally contaminated with a pyogenic gram positive coccus during a period when parotid salivation is depressed by dehydration or a severe primary illness. The reaction produced by the contaminating bacteria varies from mild transient edema to massive edema with glandular necrosis, suppuration, and blood stream invasion.

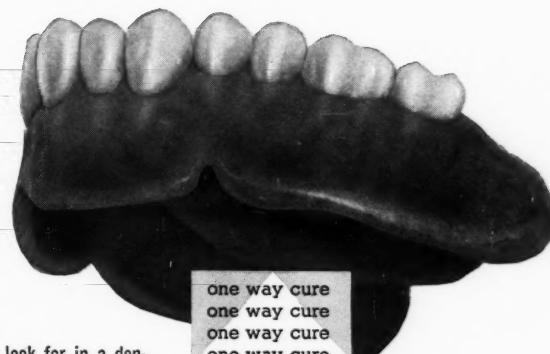
Occurrence of Fulminant Invasion

At the present time, the more fulminant invasion occurs with antibiotic resistant *Staphylococcus aureus*, and early surgical decompression of the parotid space is generally necessary to prevent the progression of the bacterial invasion. Milder cases of acute pyogenic parotitis may be expected to subside with specific antibiotic therapy and the return of physiologic salivation.

Adapted from *Surgery, Gynecology & Obstetrics* 112:404 (April) 1961.

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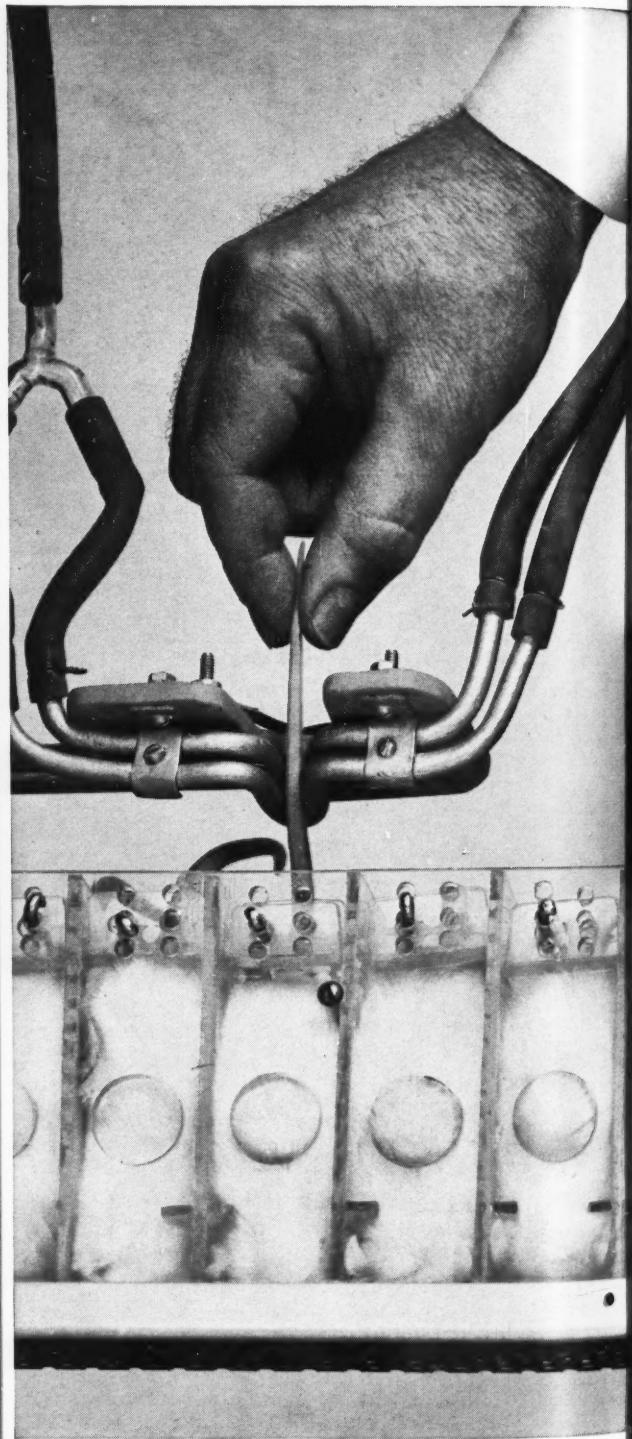
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1. Davies, O. L., Rantos, J., and Walpole, A. L.: *Brit. J. Pharmacol.*, 1:255, 1946.

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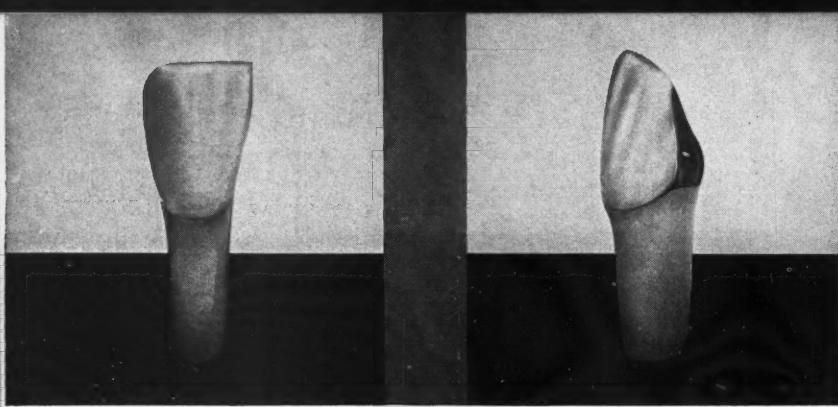
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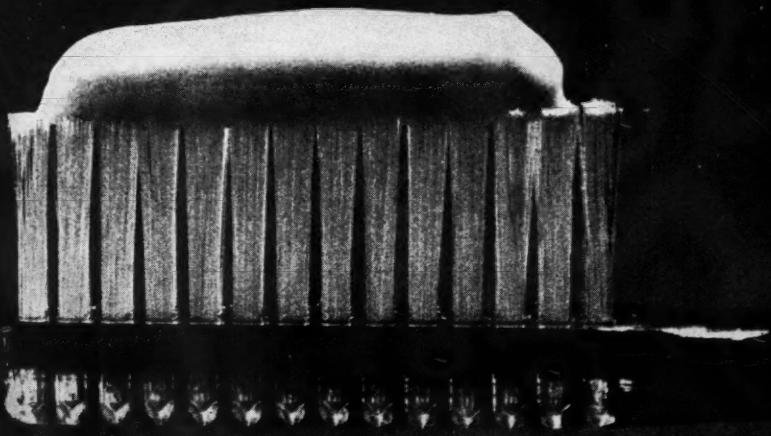
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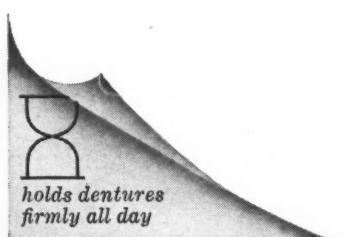
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1. Fitzgerald, G.: Dental Digest 62:494 (Nov.) 1956. 2. Abel, I.: Oral Surg. 11:491 (May) 1958. 3. Toto, P. D., et al.: J. Periodontology 29:192 (July) 1958. 4. Burman, L. R., and Goldstein, A.: J. Periodontology 32:257 (July) 1961.

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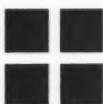
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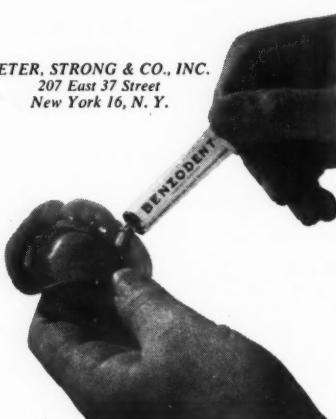
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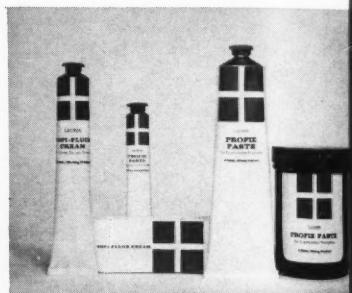
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6. Schwarzkopf, H. A further advance within the field of odontological local anesthesia. *Deutsche Zahnärztl. Woch.* No. 24. 1959. 7. Ross, N., and Dobbs, E. C. A preliminary study on Carbocaine. *J.A.D.S.A.* 7:4 Nov. 1960.

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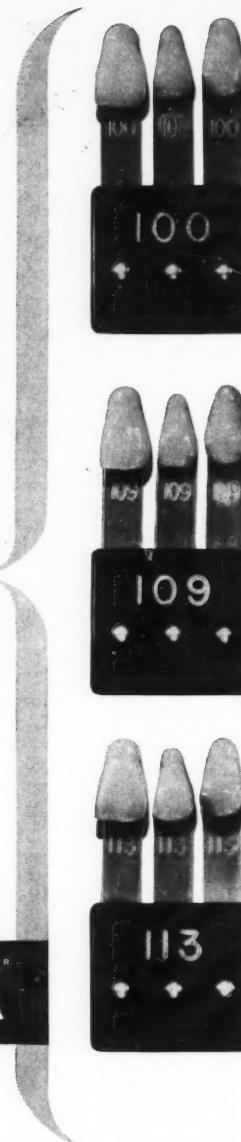
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